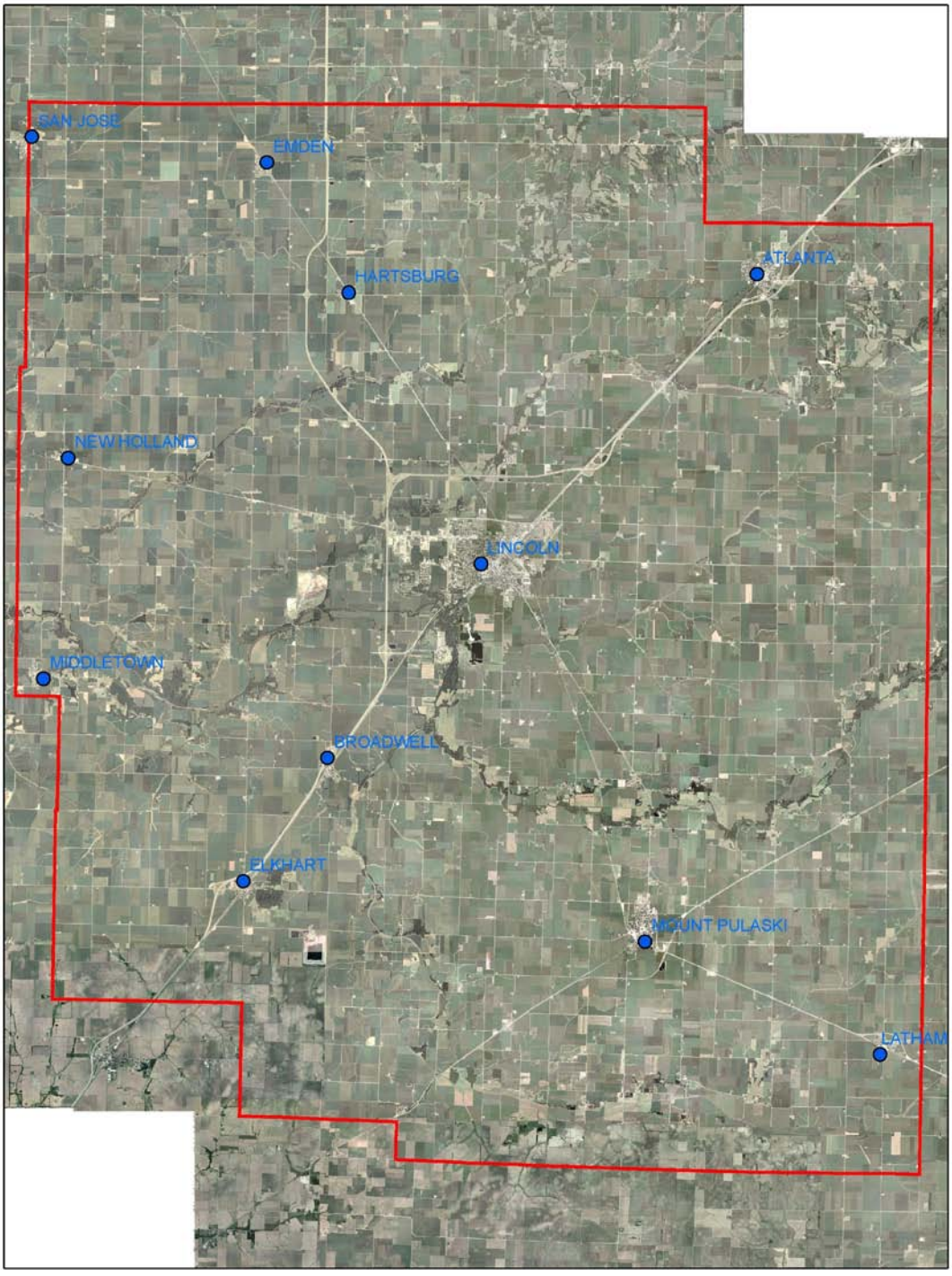
United States Department of Agriculture

In cooperation with the Illinois Agricultural Experiment Station

NRCS

Natural Resources Conservation Service

Soil Survey of Logan County, Illinois



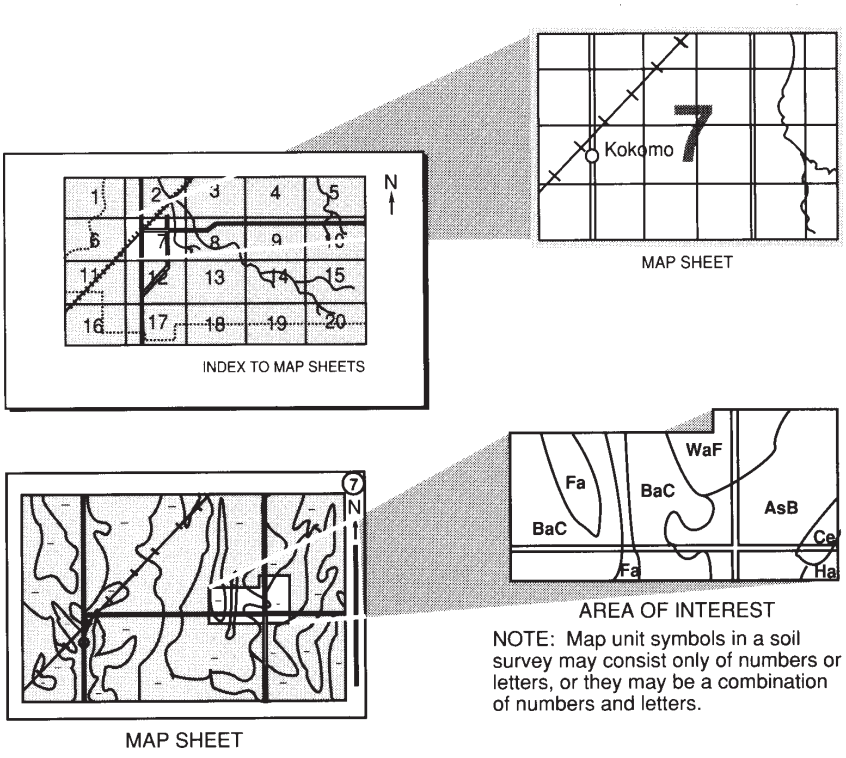
How To Use This Soil Survey

This publication consists of a manuscript and a set of soil maps. The information provided can be useful in planning the use and management of small areas.

To find information about your area of interest, locate that area on the **Index to Map Sheets**. Note the number of the map sheet and turn to that sheet.

Locate your area of interest on the map sheet. Note the map unit symbols that are in that area. Turn to the **Contents**, which lists the map units by symbol and name and shows the page where each map unit is described.

The **Contents** shows which table has data on a specific land use for each detailed soil map unit. Also see the **Contents** for sections of this publication that may address your specific needs.



NOTE: Map unit symbols in a soil survey may consist only of numbers or letters, or they may be a combination of numbers and letters.

National Cooperative Soil Survey

This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (formerly the Soil Conservation Service) has leadership for the Federal part of the National Cooperative Soil Survey. This survey was made cooperatively by the Natural Resources Conservation Service and the Illinois Agricultural Experiment Station. It is part of the technical assistance furnished to the Logan County Soil and Water Conservation District. Financial assistance was provided by the Logan County Board and the Illinois Department of Agriculture.

Major fieldwork for this soil survey was completed in 2005. Soil names and descriptions were approved in 2005. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 2005. The most current official data are available on the Internet.

Soil maps in this survey may be copied without permission. Original soil survey maps were prepared at publication scale. Viewing scale and printing scale, however, may vary from the original. The bar scale on each map sheet indicates the proper map measurements.

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Cover Photo Caption

Pictured is a photo mosaic of Logan County. The landscape in the county is predominantly farmland. The county is drained by Salt Creek and its tributaries. Natural drainage is mainly to the west and southwest.

Additional information about the Nation's natural resources is available online from the Natural Resources Conservation Service at http://www.nrcs.usda.gov.

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Foreword

Soil surveys contain information that affects land use planning in survey areas. They include predictions of soil behavior for selected land uses. The surveys highlight soil limitations, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

Soil surveys are designed for many different users. Farmers, foresters, and agronomists can use the surveys to evaluate the potential of the soil and the management needed for maximum food and fiber production. Planners, community officials, engineers, developers, builders, and home buyers can use the surveys to plan land use, select sites for construction, and identify special practices needed to ensure proper performance. Conservationists, teachers, students, and specialists in recreation, wildlife management, waste disposal, and pollution control can use the surveys to help them understand, protect, and enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. The information in this report is intended to identify soil properties that are used in making various land use or land treatment decisions. Statements made in this report are intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

These and many other soil properties that affect land use are described in this soil survey. The location of each map unit is shown on the detailed soil maps. Each soil in the survey area is described, and information on specific uses is given. Help in using this publication and additional information are available at the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

William J. Gradle
State Conservationist
Natural Resources Conservation Service

Soil Survey of
Logan County, Illinois

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Geographic information assistance provided by Dale Baumgartner, Natural Resources Conservation Service

United States Department of Agriculture, Natural Resources Conservation Service, in cooperation with the Illinois Agricultural Experiment Station

Logan County is in central Illinois (fig. 1). It has an area of 396,255 acres, or about 619 square miles. It is bounded on the north by Tazewell and McLean Counties, on the south by Sangamon County, on the west by Menard and Mason Counties, and on the east by De Witt and Macon Counties. In 2000, the population of the county was 31,183. Lincoln, the county seat, had a population of 15,370 (U.S. Department of Commerce, 2000).

This soil survey updates the survey of Logan County published in 1974 (Hudelson, 1974). It provides more information and has orthophotographic maps at a slightly larger scale.

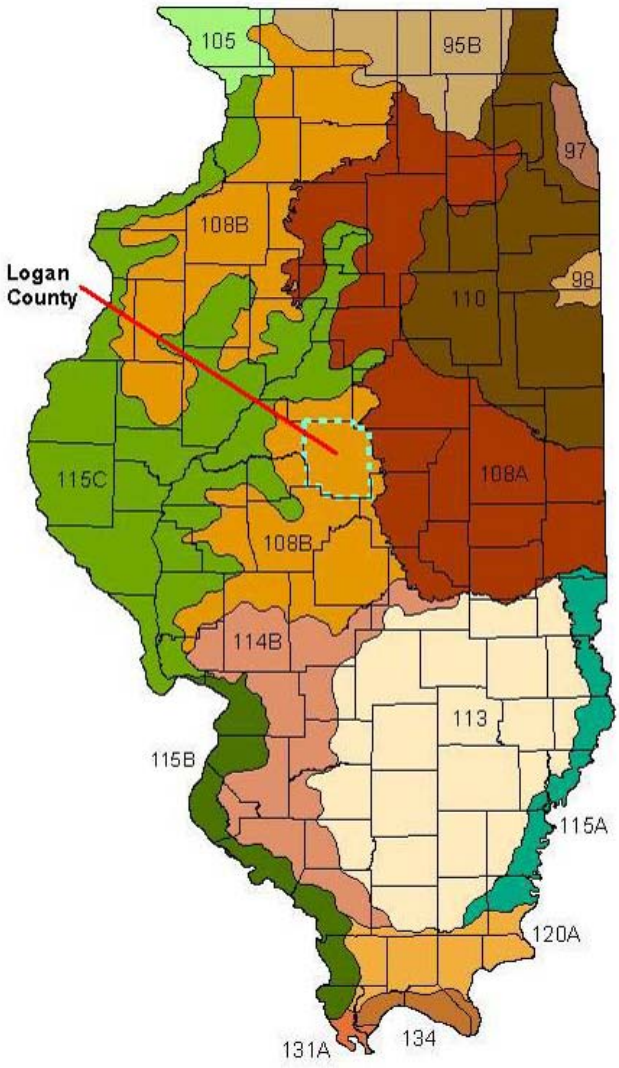
General Nature of the County

This section provides general information about Logan County. It describes history and development; relief, physiography, and drainage; farming and agriculture; transportation facilities; industry; and climate.

History and Development

William Dickerson, district conservationist, Natural Resources Conservation Service, helped prepare this section. The Logan County Genealogical and Historical Society also contributed.

The first European settlers arrived in the survey area in 1819. Logan County was established in 1839 by a bill introduced by Representative Abraham Lincoln at the Eleventh Grand Assembly. The new county was formed from parts of Sangamon, Tazewell, and De Witt Counties and was named by Abraham Lincoln in honor of his friend and fellow legislator, Dr. John Logan. Lincoln is the only city that was named for Abraham Lincoln before he became President. Logan County is about 24 miles in width and about 28 miles in extreme length (Illinois GenWeb Project).



LEGEND

95B—Southern Wisconsin and Northern Illinois Drift Plain
97—Southwestern Michigan Fruit and Truck Crop Belt
98—Southern Michigan and Northern Indiana Drift Plain
105—Northern Mississippi Valley Loess Hills
108A and 108B—Illinois and Iowa Deep Loess and Drift
110—Northern Illinois and Indiana Heavy Till Plain
113—Central Claypan Areas
114B—Southern Illinois and Indiana Thin Loess and Till Plain, Western Part
115A, 115B, and 115C—Central Mississippi Valley Wooded Slopes
120A—Kentucky and Indiana Sandstone and Shale Hills and Valleys, Southern Part
131A—Southern Mississippi River Alluvium
134—Southern Mississippi Valley Loess

Figure 1.—The location of Logan County and the major land resource areas (MLRAs) in Illinois.

Relief, Physiography, and Drainage

Nearly all of Logan County is on the Springfield Plain of the Central Lowland Province, but the northeastern part is on the Bloomington Ridged Plain (Willman and others, 1975). Remnants of the Buffalo Hart moraine of the last glacial advance during the Illinois Episode are conspicuous on the Springfield Plain in the southwestern and western parts of the county. These morainal remnants are a series of small knolls, hills, and ridges. Elkhart Hill is an example (Willman and Frye, 1970). The Bloomington Ridged Plain includes the Shelbyville and Leroy moraines of the Wisconsin Episode. The Shelbyville moraine represents the farthest glacial advance of the Wisconsin Episode into the county from the northeast (Hansel and Johnson, 1996). A change in the topography is noticeable in this part of the county, which is more rolling than the other parts and has only a few nearly level areas. Broad, nearly level areas are common in other parts of the county, and steeper areas are along the natural drainageways. Elevation ranges from more than 770 feet above sea level at a point on Elkhart Hill to about 510 feet above sea level on the flood plains along Salt Creek and Sugar Creek along the west side of the county (fig. 2).

The county is typically covered by loess that ranges from 10 to 12 feet thick in some areas (Willman and Frye, 1970). The majority of the county consists of uplands and stream terraces that are underlain by sandy and loamy glacial outwash deposits of the Henry Formation from the Wisconsin Episode. These outwash deposits are mainly associated with Deer Creek, Kickapoo Creek, Sugar Creek, and Salt Creek. A few dunes consisting of water-deposited sands that were reworked by wind also are along the stream terraces. Areas of Parkland Sand occur in dunes in the northwestern part of the county where any loess that occurs is underlain by eolian sand. In other areas the loess is underlain by glacial till of the Illinois and Wisconsin Episodes. Outcrops of till are common in areas of the Wisconsin Episode. Till outcrops of the Illinois Episode are less common and typically occur on steep slopes along major upland drainageways.

The flood plains along the major streams and their tributaries consist of Cahokia alluvium, which is poorly graded sand, silt, and clay and is typically 10 to 20 feet thick (Willman and Frye, 1970). Soils to the west of Salt Creek and Sugar Creek are underlain by sandy material at a depth of less than 80 inches.

Logan County has seven major watersheds. Natural drainage in the county is mainly toward the west and southwest. The main stream in the county is Salt Creek; its tributaries include Prairie, Sugar, Kickapoo, Deer, and Lake Fork Creeks. Salt Creek eventually flows into the Sangamon River.

Farming and Agriculture

Farming continues to be an important enterprise in Logan County. An estimated 692 farms make up about 90 percent (358,767 acres) of the total acreage in the county. Corn and soybeans are the major crops, making up approximately 96 percent of the crops planted annually. Secondary farm products include wheat, hay, cattle, and hogs. In 2002, there were 171,505 acres of corn, 156,508 acres of soybeans, 848 acres of wheat, 354 acres of oats, 2,938 acres of forage, 80,755 hogs, 6,037 cattle, and 458 sheep (USDA, 2002). The major soils in the county are highly productive.

The number of farms in the county has gradually decreased since the early 1930s, but the average farm size has increased. Today, the average farm size is 518 acres (USDA, 2002). A large number of farms in the county rely on income that is generated from jobs away from the farm. Many of the farmers and their spouses are employed outside the agricultural industry.

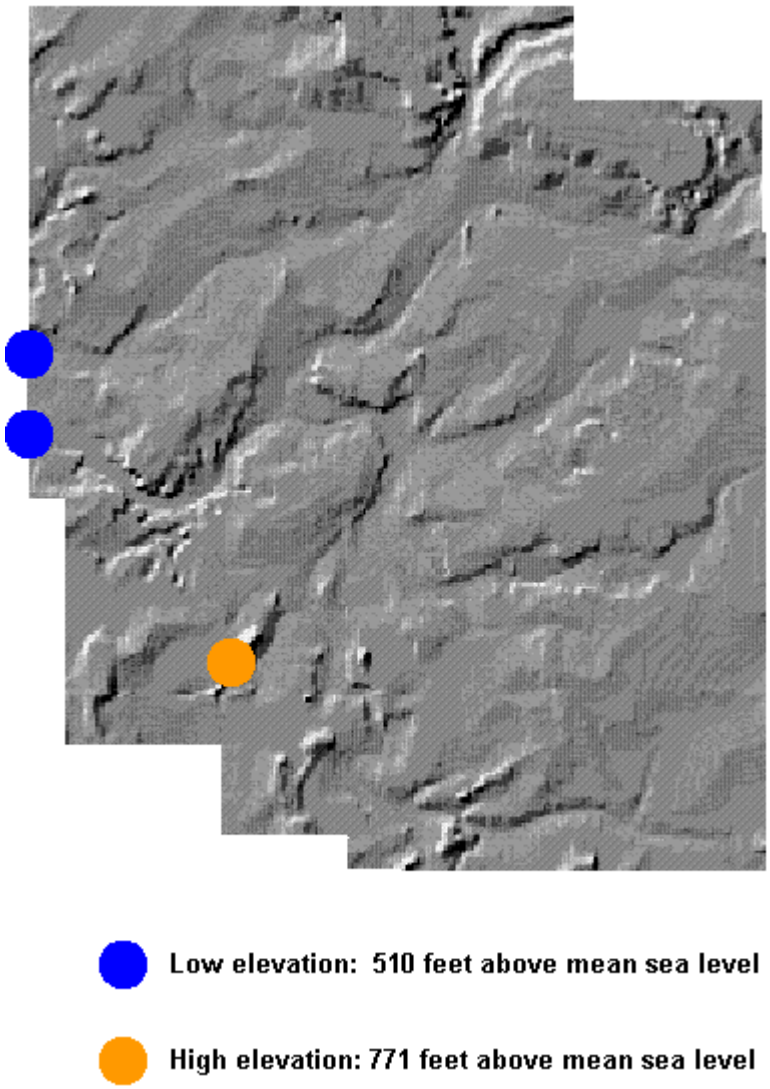


Figure 2.—A generalized relief map of Logan County showing the highest and lowest points in the county. (Source: Illinois State Geological Survey, http://www.isgs.uiuc.edu/hi_low/hilow_intro.html)

Transportation Facilities

William Dickerson, district conservationist, Natural Resources Conservation Service, helped prepare this section.

Logan County's central location in Illinois provides easy access to State and interstate highways, passenger and freight rail services, and airports. Interstate Highways I-55 and I-155 and State Highways 10, 54, 121, and 136 pass through Logan County. Three motor freight companies have terminals in Logan County, and a number of other parcel and freight transportation companies also offer daily service. The county is served by two railroads. Six Amtrak trains per day provide service from Lincoln to Chicago and St. Louis. Logan County Airport, in Lincoln, is used for private and small corporate aircraft. Passenger air service is available from three municipal airports within 40 miles of Lincoln (Lincoln/Logan County Chamber of Commerce).

Industry

William Dickerson, district conservationist, Natural Resources Conservation Service, helped prepare this section.

Agriculture and related agribusinesses are major contributors to the Logan County economy. Four seed corn companies are located in the county. Other firms produce animal feeds and process fertilizers. The largest industrial employer in Logan County produces circuit breaker panels and related devices. Other major industries produce cardboard packaging, glass containers, store fixtures, and lawn and garden equipment. A coal mine operates in southwestern Logan County near Elkhart. Gravel and limestone quarries are operated near Lincoln (Lincoln/Logan County Chamber of Commerce).

Climate

Logan County has a continental climate characterized by relatively cold winters and warm, humid summers. Although precipitation is heaviest during the warmer half of the year, winter snow cover and frost usually provide adequate moisture to the soils in spring.

Table 1 gives data on temperature and precipitation for the survey area as recorded at Lincoln in the period from 1971 to 2000. Table 2 shows probable dates of the first freeze in fall and the last freeze in spring. Table 3 provides data on length of the growing season.

In winter, the average temperature is 28 degrees F and the average daily minimum temperature is 19.3 degrees. The lowest temperature on record, which occurred at Lincoln on December 26, 1914, is -29 degrees. In summer, the average temperature is 73.8 degrees and the average daily maximum temperature is 84.7 degrees. The highest recorded temperature, which occurred at Lincoln on July 15, 1936, is 113 degrees.

Growing degree days are shown in table 1. They are equivalent to “heat units.” During the month, growing degree days accumulate by the amount that the average temperature each day exceeds a base temperature (50 degrees F). The normal monthly accumulation is used to schedule single or successive plantings of a crop between the last freeze in spring and the first freeze in fall.

The total annual precipitation is 38.21 inches. Of this total, 23.37 inches, or 61 percent, usually falls in April through September. The growing season for most crops falls within this period. In 2 years out of 10, the rainfall in April through September is less than 11.8 inches. The heaviest 1-day rainfall on record is 5.22 inches at Lincoln on May 12, 1914.

The average seasonal snowfall is 20.5 inches. The greatest 1-day snowfall on record is 13 inches at Lincoln on February 23, 1914. On the average, 24 days of the year have at least 1 inch of snow on the ground. The number of such days varies greatly from year to year.

How This Survey Was Made

This survey was made to provide updated information about the soils and miscellaneous areas in the survey area, which is in Major Land Resource Areas 108A and 108B. Major land resource areas (MLRAs) are geographically associated land resource units that share a common land use, elevation, topography, climate, water, soils, and vegetation (USDA/NRCS, 2006). Logan County is a subset of MLRAs 108A and 108B (fig. 1). Map unit design is based on the occurrence of each soil throughout

an MLRA. In some cases a soil may be referred to that does not occur in Logan County but that has been mapped within the MLRA.

The information in this updated survey includes a description of the soils and miscellaneous areas and their location and a discussion of their properties and the subsequent effects on suitability, limitations, and management for specified uses. During the fieldwork for this survey, soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They prepared new soil profile descriptions and studied many existing soil profile descriptions. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

The soils and miscellaneous areas in the survey area are in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind or segment of the landscape. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landscape, soil scientists develop a concept, or model, of how the soils were formed. This model enables the soil scientists to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Individual soils on the landscape commonly merge into one another as their characteristics gradually change. To construct an accurate map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they observed. The maximum depth of observation was about 80 inches (6.7 feet). The soil scientists noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, soil reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Interpretations are modified as necessary to fit local conditions, and some new interpretations are developed to meet local needs. Interpretations and tables for this soil survey were generated using the National Soil Survey Information System (NASIS) version 5.3.1. Data are assembled from other sources, such as research information, production

records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a seasonal high water table within certain depths in most years, but they cannot predict that the water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Aerial photographs used in this update survey were taken in 1998 and 1999. Soil scientists also studied U.S. Geological Survey topographic maps (enlarged to a scale of 1:12,000) and orthophotographs to relate land and image features. Information published in an earlier survey of Logan County (Smith and others, 1927) also was examined. Specific soil boundaries from the soil maps published in 1974 (Hudelson, 1974) were drawn on the orthophotographs. Adjustments of soil boundary lines were made to coincide with the U.S. Geological Survey topographic map contour lines and tonal patterns on aerial photographs.

The descriptions, names, and delineations of the soils in this survey area may not fully agree with those of the soils in adjacent survey areas. Differences are the result of an improved knowledge of soils, modifications in series concepts, or variations in the intensity of mapping or in the extent of the soils in the survey areas.

Formation and Classification of the Soils

This section relates the soils in the survey area to the major factors of soil formation and describes the general processes of soil formation and the soil-landscape units in the survey area. It also describes the system of soil classification.

Formation of the Soils

Steve Suhl, resource soil scientist, Natural Resources Conservation Service, helped prepare this section.

A soil is a three-dimensional natural body consisting of mineral and organic material that can support plant growth. The nature of any soil at a given site is the result of the interaction of the factors of soil formation and their influence on the processes of soil formation.

Factors of Soil Formation

There are five major factors of soil formation—parent material, climate, plants and animals, topography, and time. Climate and plants and animals act directly on parent material, which is modified by topography over time. Theoretically, if all of these factors were identical at different sites, the soils at these sites would be identical. Differences among the soils are caused by variations in one or more of these factors.

Parent Material

Parent material is the unconsolidated geologic material in which a soil forms. It determines the basis for the chemical and mineralogical composition of the soil. The properties of the parent material vary greatly, sometimes within small areas, depending on how the material was deposited. The soils in Logan County formed in a variety of parent materials. The majority of the soils formed in eolian deposits. Other soils formed in drift, alluvium, overburden from open-pit mining, or a combination of these. Figure 3 shows the relationship of parent material to some of the major soils in the county.

Eolian deposits are sediments deposited by wind. The primary source of these sediments was valley trains. Valley trains consist of outwash deposited in valleys cut by glacial meltwater. During periods of low temperatures and precipitation rates, the meltwaters receded and the barren outwash surface was exposed to intense wind erosion. The wind stripped the finer components from the outwash, which was transported and deposited downwind along the adjacent valley sides and uplands. The coarser silt and sands were deposited near the source valleys, and the finer silts were carried longer distances and deposited over broad areas. In Logan County, eolian sediments were deposited during the Wisconsin Episode and are either loess or windblown sand. Loess is the major parent material in Logan County. It is composed almost entirely of silt. The loess ranges from 10 to 12 feet thick in the nearly level uplands and is generally thinner in the more sloping areas (Willman and Frye, 1970). Ipava and Rozetta soils formed entirely in loess.

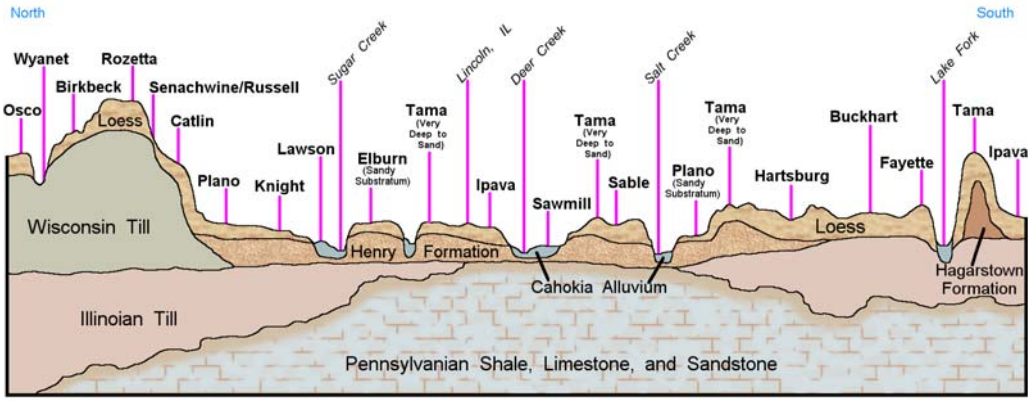


Figure 3.—Typical cross section showing the relationship of parent materials to the soils in Logan County.

Windblown sand is poorly graded and is composed primarily of very fine sand and fine sand. It generally is in areas along stream valleys. The soils that formed entirely in windblown sand are of minor extent in Logan County. Princeton and Bloomfield soils are examples. Broadwell and Middletown soils are examples of soils that formed in loess and in the underlying windblown sand.

Drift is glacially deposited sediment. The two main types of drift are till and outwash. Till is material that was deposited directly by glacial ice with little or no water action. It typically has particles that vary in size, including sand, silt, clay, and some pebbles, cobbles, and larger rock fragments. The small pebbles in till generally have distinct edges and corners, indicating that they have not been subject to intense washing by water. Till is well graded and unstratified. In Logan County, till was deposited during the Illinois and Wisconsin Episodes. Soils that formed in till deposited during the Illinois Episode are of minor extent in Logan County. Hickory soils are examples. Senachwine soils are examples of soils that formed in till deposited during the Wisconsin Episode. These soils occur only in the northeastern part of the county and are of minor extent. Soils that formed predominantly in till typically have a thin overlying layer of loess.

Outwash includes all sediments deposited by running water from melting glaciers. The size of the particles that can be transported by water, either as bedload or as suspended sediments, depends on the gradient, volume, and velocity of the moving water. Water velocity decreases when a stream loses grade or flows into a larger body of water. As the velocity decreases, suspended particles begin to settle out. The coarser materials, such as gravel and cobbles, are deposited nearer to the source; the finer materials, such as fine sands, silts, and clays, are carried farther downstream. The pebbles in outwash generally have rounded edges and corners, indicating that they have been subject to intense washing by water. Outwash is poorly graded, is stratified, and is variable in composition because of variations in the flow of water. Outwash is generally permeable. The outwash in Logan County was deposited during the Wisconsin Episode. The soils that formed in outwash deposits are of moderate extent in the county. Plano and Drummer soils are examples of soils that formed in loess and in the underlying outwash.

Alluvium is material deposited by running water. In Logan County the predominant type of alluvium is stream alluvium. Stream alluvium is soil material deposited by floodwater along streams. The source of the alluvium generally is material eroded from other parent materials farther upstream in the watershed. Stream alluvium is poorly graded, stratified, and well sorted. The texture of the soil material varies, depending on the speed of the floodwater, the duration of the flooding, and the distance from the

streambank. The more rapidly moving water within the stream channel slows quickly once outside the channel as the concentrated channel flow changes to broad overland flow. As the water velocity decreases, the coarser textured material is deposited first near the channel. The fine textured material is carried a greater distance from the channel. Landes soils are examples of soils that formed close to the stream channel where the alluvium is coarser textured. Lawson soils formed in finer textured alluvium farther from the stream channel. Areas that remain flooded for extensive periods of time with slowly moving water, such as backswamps, provide the environment for fine textured material to settle out. Sawmill soils are examples of soils that formed in these areas.

Overburden from open-pit mining is the overlying material excavated to expose the bedrock. It consists of unconsolidated material, which includes the solum and substratum of the modern soil, and consolidated material, which includes shale, sandstone, or limestone bedrock. The characteristics of the soil on mined land reflect the character of the overburden, the method of mining, and the degree of reclamation. For example, the parent material of Lenzburg soils is a heterogeneous mixture of loess, till, and limestone. This mixture is the result of a mining process in which little or no segregation of materials occurs.

Climate

The climate in Logan County has significantly affected the soil-forming processes. The county currently has a humid, temperate climate. In this climatic environment, physical and chemical weathering of the parent material can occur along with the accumulation of organic matter, the decomposition of minerals, the formation and translocation of clay, the leaching of soluble compounds, and alternating periods of freezing and thawing.

The two climatic factors that have the greatest influence on soil-forming processes are precipitation and temperature. Precipitation supplies the moisture needed for most physical and chemical processes and determines the depth to which these processes occur. The soil moisture regime, which is only a partial function of precipitation, determines the processes that occur in the soil. The rate at which these physical and chemical processes proceed is dependent upon the temperature, particularly its relationship to the soil temperature regime.

Two soil moisture regimes occur in the county—aquic and udic. The aquic moisture regime is a reducing regime in a soil that is virtually free of dissolved oxygen because of saturation by water or by water of the capillary fringe. Biological activity is necessary to remove dissolved oxygen from ground water; therefore, the soil temperature must also be above biologic zero (5 degrees C) for some time while the soil is saturated. Sable soils have an aquic soil moisture regime. The udic moisture regime implies that the soil moisture control section is not dry in any part for as long as 90 cumulative days per year. Also required, except for short periods, is a three-phase system, solid-liquid-gas, in part or all of the soil moisture control section when the soil temperature is above biologic zero. Tama soils have a udic soil moisture regime.

The mesic soil temperature regime is the only temperature regime recognized in the county. This regime implies that the mean annual soil temperature is 8 degrees C or higher but is lower than 15 degrees C, and the difference between mean summer and mean winter soil temperatures is more than 5 degrees C at a depth of 20 inches.

Plants and Animals

The vegetation under which a soil forms influences several important soil properties, such as color, structure, reaction, and content and distribution of organic matter. Vegetation extracts water from the soil, recycles nutrients, and adds organic material to the soil. Gases derived from root respiration combine with water to form acids that influence the weathering of minerals.

Several different types of vegetation have influenced the formation of the soils in Logan County. These include prairie vegetation, upland hardwood forests, forest-prairie transition areas, and flood-plain areas. These vegetation types are described in the following paragraphs.

Prairie Vegetation.—The decomposition of the roots of annual prairie grasses provides well distributed subsurface accumulations of organic materials, resulting in a thick, dark surface layer. Ipava soils formed under prairie vegetation. The average content of organic matter in the surface layer of these soils is 3.5 to 5.0 percent.

Upland Hardwood Forests.—Organic matter is contributed primarily from the annual additions of leaf litter to the surface layer, resulting in a thin, dark surface layer. Rozetta soils formed under this type of vegetation. The average content of organic matter in the surface layer of these soils is 1 to 3 percent.

Forest-Prairie Transition Areas.—Soils that formed in these areas exhibit modified characteristics of both forest and prairie vegetative regimes. The average content of organic matter in the surface layer of soils that formed in these areas is 2 to 3 percent. Clarksdale soils are examples.

Flood-Plain Areas.—Soils in these areas formed under a combination of trees and grasses. They have colors that largely reflect those of the sediments in which they formed. Lawson soils are examples.

Bacteria, fungi, and many other micro-organisms decompose organic material and release nutrients to growing plants. They influence the formation of peds. Soil properties, such as drainage, temperature, and reaction, influence the type of micro-organisms that live in the soil. Fungi are generally more active in the more acid soils, and bacteria are more active in the less acid soils.

Earthworms, crayfish, insects, and small burrowing animals mix the soil and create small channels that influence soil aeration and the percolation of water. Earthworms help to incorporate crop residue or other organic material into the soil. The organic material improves soil tilth. In areas that are well populated with earthworms, the leaf litter that accumulates on the soil in the fall is generally incorporated into the soil by the following spring. If the earthworm population is low, part of the leaf litter can remain on the surface of the soil for several years.

Human activities have significantly influenced soil formation through their effect on soil health. Degradation processes, such as erosion, compaction, contamination, disaggregation, loss of biological activity, and nutrient depletion, have damaged soil health. Native forests have been cleared and wet soils drained for farming and other uses. The development of land for urban uses or for surface mining has significantly influenced the soils in some areas.

Topography

Topography describes the configuration of the land surface in terms of relief and contour. It influences soil formation mainly through its effect on the proportion of surface-water runoff to infiltration and on the degree of erosion or deposition. In Logan County, the less sloping areas generally have a lower rate of runoff and a higher rate of infiltration than the steeper areas. Soils that form in the less sloping areas tend to exhibit more development than the soils in the steeper areas and have a thicker soil profile.

The degree of the effect of topography is dependent upon the type and stability of the land surface. There are two types of land surfaces—aggrading and degrading—and three levels of stability—stable, metastable, and active. In Logan County, aggrading surfaces receive material either from deposition associated with flooding or by the accumulation of erosional sediments. Landes soils formed on natural levees on flood plains, which are active-aggrading land surfaces. Natural levees receive depositions of sediment from frequent episodes of flooding. Sable soils formed in broad, low-lying areas on drainage divides that receive runoff from upslope but

accumulate little sediment from hillslope erosion. These broad, low-lying areas are examples of stable-aggrading land surfaces. Degrading surfaces lose material primarily through the process of erosion. Keomah soils formed on the broad summits of interfluves. Broad summits are examples of stable-degrading surfaces, where runoff is limited. Rozetta soils occur on shoulders of hillslopes and thus are more susceptible than the Keomah soils to runoff and erosion. Shoulders are metastable-degrading surfaces, where increased runoff leads to higher rates of erosion. Backslopes are examples of active-degrading surfaces. Hickory soils are on backslopes, where runoff and erosion rates are highest.

Time

The length of time that the parent material has been exposed to the soil-forming processes influences the degree of genetic horizon development that occurs within the soil. The evaluation of time as a factor in soil formation is difficult because of the effects of the other soil-forming factors. The influence of time can be modified by erosion, deposition of material, topography, and kind of parent material. For example, in the steeper areas on the landscape, much of the rainfall is lost to runoff and little is available to infiltrate and move through the parent material. Soil formation does not proceed as rapidly in these areas, and the surface soil that does form is commonly partially removed by erosion. Soils in these areas are immature, even though the slopes have been exposed to weathering for thousands of years. Bold soils are examples. Some areas on flood plains receive alluvial material during each flood event. The soils that form in these areas are commonly immature because the repeated episodes of deposition interrupt soil formation. Lawson soils are examples of soils that formed in stream alluvium.

Processes of Soil Formation

Soil forms through the complex interaction of four general processes. These processes are additions, transformations, removals, and transfers. The importance of these processes in the formation of a given soil varies.

The accumulation of organic matter in the A horizon of the mineral soils in Logan County is an example of an addition. The most striking example of this addition is the formation of a mollic epipedon. The mollic epipedon forms in an environment that features optimum moisture and temperature conditions and optimum amounts of bivalent cations. Such an environment allows grasses to thrive. The underground decomposition of organic residues and of organic residues from the surface that have been taken underground by animals results in the characteristic thickness and darkness of the mollic epipedon. Ipava soils are examples of soils that have a mollic epipedon.

Transformations are changes that take place in the soil. An example is the reduction of iron and manganese, which occurs in soils saturated with water. Typically, iron oxides coat soil particles and, in an aerated environment, produce yellowish, yellowish brown, or reddish colors. Manganese oxides produce black colors. Micro-organisms that are able to generate energy from the oxidation of soil organic matter in an aerated environment flourish. The energy is necessary for the micro-organisms to conduct the basic functions of life. When a soil becomes saturated with water and the dissolved oxygen is removed, anaerobic conditions develop. These conditions result in changes in the biochemical processes occurring in the soils and in the development of distinctive soil morphological characteristics (redoximorphic features). Reduced iron and manganese can move with the soil water to other parts of the soil and can be removed entirely from the soil by leaching. After the iron and manganese are gone, the leached area, or depletion, generally has a grayish or whitish color. If the reduced iron comes in contact with oxygen, it can re-oxidize. The result is the formation of bright-

colored concentrations or accumulations. Repeated cycles of saturation and drying create a mottled soil. Part of the soil is gray because of the loss of iron, and other parts are brown because the iron oxide has accumulated or has not been removed. The somewhat poorly drained Ipava soils are examples of soils in which this process has occurred. If a soil remains saturated for long periods, iron may be leached from the soil. Such soils are generally grayish, or gleyed. The poorly drained Sable soils are examples.

Removals that occur within the soil are commonly a result of leaching. The leaching of calcium carbonate from many of the soils in the county is an example of a removal. The parent material of these soils was initially high in calcium carbonate. Water percolating through the soil dissolved and transported the carbonate into the deeper soil layers. Calcium carbonate is relatively soluble and is removed relatively early in the formation of the soil. It is also a powerful flocculent, and its removal facilitates the translocation of clay and the formation of illuvial horizons. The loss of solid mineral and organic particles through erosion is another example of a removal. Such losses can be serious because the material lost is typically the most productive part of the soil profile.

Translocations are movements from one place to another in the soil. An example is the formation of an illuvial horizon through the translocation of clay from the A or E horizon, the zone of eluviation, or loss, to the B horizon, the zone of illuviation, or gain. In Fayette soils, for example, a significant amount of clay has accumulated, forming an illuvial horizon called an argillic horizon. The argillic horizon developed on a relatively old, stable landscape. Fine clay was transferred from the A or E horizon by water from rain and melting snow downward through the soil to the B horizon, where it was deposited on the faces of peds and along pores.

Soils and Soil-Landscape Units

Soils are natural bodies that are distributed on the landscape in a predictable way in response to a systematic interaction of the five major factors of soil formation—parent material, time, topography, plants and animals, and climate. The relationship of landscape to these five factors results in a soil-landscape unit (Hudson, 1992). A soil-landscape unit is similar to a landform that has been modified by one or more of the soil-forming factors. Within a particular soil-landscape unit, the same kind of soil should develop. Variation in the interaction of one or more of the five factors generally results in a change in the soil-landscape unit, which in turn influences the soil-forming processes and the soil that forms within the unit.

The following paragraphs describe the relationships and interactions that occur in some of the more common soil-landscape units in Logan County and the soils that have formed in these units.

Upland landscapes predominate in Logan County. These landscapes range from broad, relatively undissected drainage divides to dissected areas adjacent to the river bluffs. The parent material is loess. Much of the calcium carbonate present when the loess was deposited has been leached to a sufficient depth to facilitate soil development.

Low-lying areas on the broad drainage divides are stable-aggrading land surfaces that receive water through direct precipitation and runoff from upslope. These conditions result in a wet soil microclimate. A seasonal high water table is near the surface much of the year, and at times the area is ponded. Redoximorphic features associated with prolonged saturated conditions, such as a depleted soil matrix and iron and manganese accumulations along root channels and pores, occur at the soil surface as a result of the seasonal high water table.

The native vegetation in this soil-landscape unit was prairie grass. Additions of organic material from the decomposition of the extensive and deep root systems of

these grasses resulted in the formation of a thick, dark surface layer called a mollic epipedon.

The saturated conditions and poor aeration influenced the rate of decomposition of organic material. This rate is slower in soils that are saturated for prolonged periods, resulting in a thicker mollic epipedon and a higher content of organic matter than those of the soils in better aerated positions upslope.

The extended periods of saturation also impeded the movement or illuviation of clay. A cambic horizon has developed through the aggregation of soil particles into structural units, or peds, and the development of redoximorphic features. Sable soils formed in areas of this soil-landscape unit.

Upslope from the low-lying areas is a soil-landscape unit composed of the summits of broad rises on drainage divides. These areas are stable-degrading land surfaces that receive water primarily through direct precipitation. The seasonal high water table is at a lower depth than in the soils in the adjacent low-lying areas, and the associated redoximorphic features indicate a fluctuating water table. The soil microclimate alternates between periods when the soil is saturated and periods when the soil is unsaturated. The yellowish brown soil matrix in the upper part of the profile indicates an oxidizing environment; the redoximorphic features are associated with periods of saturation.

The native vegetation in areas of this soil-landscape unit was prairie grasses. These landscape positions are better aerated than the adjacent low-lying positions and tend to have a higher rate of decomposition of organic matter. As a result, the soils in these areas generally have a slightly thinner mollic epipedon and a lower content of organic matter than the soils in the low-lying areas.

Fluctuations in depth to the water table disrupt the soil fabric through wetting and drying cycles. An argillic horizon has formed as a result of the dispersal, movement, and precipitation of clay. Ipava soils formed in areas of this soil-landscape unit.

The soil-landscape unit in the more dissected areas is composed of broad summits of interfluves. These dissected areas are stable-degrading land surfaces that receive water primarily through direct precipitation. The depth to the seasonal high water table and the associated redoximorphic features are nearly identical to those of the soil-landscape unit on the summits of broad rises.

The native vegetation in this soil-landscape unit was transitional between forest and prairie vegetation. The soils in these areas have a dark surface layer, but they do not have a mollic epipedon because the dark surface layer is not thick enough and does not have a sufficient accumulation of organic matter. This type of surface horizon is called an ochric epipedon.

A light-colored, eluvial subsurface horizon (called an albic horizon) has also developed in the soils in these areas. This horizon is typical of soils that formed under forest vegetation. In this horizon, much of the clay and free iron oxides has been removed and the color is determined primarily by the uncoated silt and sand particles. The clay translocated from the eluvial horizon to the illuvial horizon results in the formation of an argillic horizon. Clarksdale soils are in areas of this soil-landscape unit.

Adjacent to this soil-landscape unit is a unit that is also composed of summits of interfluves but that is generally closer to the opposing interfluve drainageways and on narrower summits. These areas are stable-degrading land surfaces that receive water through direct precipitation. Water that does not infiltrate the soil is lost through surface flow or runoff. Runoff increases the susceptibility to erosion.

The seasonal high water table and the associated redoximorphic features occur at a much lower depth than in the soils on the broad summits. The upper part of the soil profile is generally yellowish brown and free of depletions, indicating an oxidizing environment. Depletions occurring in the lower part of the subsoil are generally restricted to the pores within the soil.

The native vegetation in areas of this soil-landscape unit was forest. Under forest vegetation, most of the addition of organic material occurs above ground. Organic matter is not incorporated as deep in the soil profile as it is in soils that formed under prairie vegetation, and the content decreases rapidly with increasing depth. Therefore, the dark surface layer in these soils is thinner than that in the Clarksdale soils. An ochric epipedon and an albic horizon have developed.

The more acid leaching environment that occurs under forest vegetation allows dispersed clay particles to be translocated to a greater depth than in similar positions under prairie vegetation. The result is a well developed argillic horizon. Rozetta soils formed in areas of this soil-landscape unit.

In rolling landscapes adjacent to the major rivers in the county is a soil-landscape unit composed of convex summits of narrow interfluves and shoulders of hillslopes. These areas are metastable-degrading land surfaces that receive water through direct precipitation but also lose some of this water through runoff. Runoff increases the susceptibility to erosion and creates a drier soil microclimate. The seasonal high water table is below the depth of the developing soil profile. The entire profile is yellowish brown or brown, indicating an oxidizing environment.

The native vegetation in this soil-landscape unit was forest. The soils have an ochric epipedon and albic and argillic horizons. Fayette soils are examples.

Downslope from this soil-landscape unit is a unit composed of backslopes of side slopes. These areas are active-degrading land surfaces that receive water through direct precipitation but also lose much of this water through runoff. The depth to the seasonal high water table is similar to that in the Fayette soils, and thus the soil profile is yellowish brown or brown and is free of depletions.

The native vegetation was forest. Like the Fayette soils, the soils in these areas have an ochric epipedon. Because much of the water is lost to runoff, however, less water infiltrates and percolates through the soil and less is available to aid in the translocation of clay. As a result, these soils do not have an albic or argillic horizon. Bold soils formed in areas of this soil-landscape unit.

On the narrow flood plains between opposing side slopes is an active-aggrading land surface that receives depositions of sediment from frequent episodes of flooding. The nearly continual deposition of sediment interrupts the soil-forming processes. The result is a less developed soil profile. The soils in these areas have a mollic epipedon, but they also exhibit the fine stratification in the underlying horizons common to recent alluvial deposits and have no diagnostic subsurface horizons. Radford soils are examples.

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (Soil Survey Staff, 1999). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. Table 4 shows the classification of the soils in Logan County. The categories are defined in the following paragraphs.

ORDER. Twelve soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol.* An example is Mollisol.

SUBORDER. Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Udoll (*Ud,* meaning humid, plus *oll,* from Mollisol).

GREAT GROUP. Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Argiudolls (*Argi,* meaning white clay, plus *udoll,* the suborder of the Mollisols that has a udic moisture regime).

SUBGROUP. Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other known kind of soil. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective Typic identifies the subgroup that typifies the great group. An example is Typic Argiudolls.

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle-size class, mineral content, temperature regime, thickness of the root zone, cation-exchange capacity, consistence, moisture equivalent, slope, and permanent cracks. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is fine-silty, mixed, superactive, mesic Typic Argiudolls.

SERIES. The series consists of soils that have similar horizons in their profile. The horizons are similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile. The texture of the surface layer or of the substratum can differ within a series.

Soil Series and Detailed Soil Map Units

In this section, arranged in alphabetical order, each major soil series recognized in the survey area is described. Each series description is followed by detailed descriptions of the associated soil map units.

Characteristics of the soil and the material in which it formed are identified for each soil series. A pedon, a small three-dimensional area of soil, that is typical of the series in the survey area is described. The detailed description of each soil horizon follows standards in the "Soil Survey Manual" (Soil Survey Division Staff, 1993). Many of the technical terms used in the descriptions are defined in "Soil Taxonomy" (Soil Survey Staff, 1999) and in "Keys to Soil Taxonomy" (Soil Survey Staff, 2003). Unless otherwise stated, colors in the descriptions are for moist soil. Following the pedon description is the range of important characteristics of the soils in the series.

The map units on the detailed soil maps in this survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this section, along with the maps, can be used to determine the suitability and potential of a unit for specific uses. They also can be used to plan the management needed for those uses. More information about each map unit is given under the headings "Use and Management of the Soils" and "Soil Properties."

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. The contrasting components are mentioned in the map unit descriptions. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of

such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives the principal hazards and limitations to be considered in planning for specific uses.

Soils that have profiles that are almost alike make up a *soil series*. All the soils of a series have major horizons that are similar in composition, thickness, and arrangement. The soils of a given series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Fayette silt loam, 5 to 10 percent slopes, eroded, is a phase of the Fayette series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are called complexes. A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Hickory-Sylvan complex, 18 to 35 percent slopes, eroded, is an example.

This survey includes *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Pits, quarries, is an example.

Table 5 gives the acreage and proportionate extent of each map unit. Other tables give properties of the soils and the limitations, capabilities, and potentials for many uses. The Glossary defines many of the terms used in describing the soils or miscellaneous areas.

3408A—Aquents, loamy, level, frequently flooded

Setting

General description: Cut and borrow areas where soil has been disturbed during the construction of roads or railroads
Landform: Depressions on flood plains

Map Unit Composition

Aquents and similar soils: 85 percent
Dissimilar soils: 15 percent

Components of Minor Extent

Similar soils:
- Soils that have less sand throughout

Dissimilar soils:
- The poorly drained Sawmill soils in undisturbed areas
- The somewhat poorly drained Tice soils in undisturbed areas

Properties and Qualities of the Aquents

Parent material: Alluvium
Drainage class: Very poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent

Shrink-swell potential: Moderate
Apparent seasonal high water table: At the surface to 1 foot below the surface
Ponding: At the surface to 0.5 foot above the surface
Frequency and most likely period of flooding: Frequent, November to June
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 5w
Prime farmland category: Not prime farmland
Hydric soil status: Hydric

Birkbeck Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Oxyaquic Hapludalfs

Typical Pedon

Birkbeck silt loam, 2 to 5 percent slopes; at an elevation of about 680 feet; Macon County, Illinois; about 1,600 feet east and 750 feet south of the northwest corner of sec. 25, T. 17 N., R. 3 E.; USGS Argenta, Illinois, topographic quadrangle; lat. 39 degrees 54 minutes 25.3 seconds N. and long. 88 degrees 48 minutes 59.7 seconds W.; UTM Zone 16, 344718E 4419014N, NAD 83:

A—0 to 4 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak thin platy structure parting to moderate very fine granular; friable; slightly acid; abrupt smooth boundary.
E—4 to 9 inches; brown (10YR 4/3) silt loam; moderate very thin platy structure; friable; few distinct dark brown (10YR 3/3) organic coatings on faces of peds; few distinct gray (10YR 6/1) (dry) clay depletions on faces of peds; very strongly acid; clear smooth boundary.
Bt1—9 to 13 inches; dark yellowish brown (10YR 4/4) silty clay loam; weak fine subangular blocky structure parting to moderate very fine granular; friable; common distinct dark brown (10YR 3/3) organo-clay films on faces of peds; common distinct light gray (10YR 7/1) (dry) clay depletions on faces of peds; few fine irregular black (7.5YR 2.5/1) weakly cemented manganese nodules throughout; strongly acid; clear smooth boundary.
Bt2—13 to 24 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine and very fine subangular blocky structure; friable; many distinct brown (7.5YR 4/4) clay films on faces of peds; common fine irregular black (7.5YR 2.5/1) weakly cemented manganese nodules throughout; strongly acid; clear smooth boundary.
Bt3—24 to 29 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine subangular blocky structure; friable; many distinct brown (7.5YR 4/4) clay films on faces of peds; common fine irregular black (7.5YR 2.5/1) weakly cemented iron-manganese nodules throughout; strongly acid; clear smooth boundary.
Bt4—29 to 42 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium subangular blocky structure; friable; many distinct brown (7.5YR 4/4) clay films on faces of peds; common medium irregular black (7.5YR 2.5/1) weakly cemented manganese nodules throughout; few fine distinct light brownish gray (2.5Y 6/2) iron depletions in the matrix; common fine distinct light yellowish brown (2.5Y 6/4) masses of iron and manganese accumulation in the matrix; strongly acid; gradual smooth boundary.

Bt5—42 to 54 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium and coarse subangular blocky structure; friable; many distinct brown (7.5YR 4/4) clay films on faces of peds; common medium irregular black (7.5YR 2.5/1) weakly cemented manganese nodules throughout; few fine distinct light brownish gray (2.5Y 6/2) iron depletions in the matrix; common fine distinct light yellowish brown (2.5Y 6/4) masses of iron and manganese accumulation and few medium distinct strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; slightly acid; clear smooth boundary.

2Bt6—54 to 60 inches; dark yellowish brown (10YR 4/4) loam; weak coarse subangular blocky structure; friable; few distinct brown (7.5YR 4/4) clay films on faces of peds; few distinct very dark grayish brown (10YR 3/2) organo-clay films in pores; few fine irregular black (7.5YR 2.5/1) weakly cemented manganese nodules throughout; common fine distinct light brownish gray (2.5Y 6/2) iron depletions in the matrix; common medium distinct light yellowish brown (2.5Y 6/4) masses of iron and manganese accumulation and common fine distinct strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; neutral; gradual smooth boundary.

2C—60 to 68 inches; light olive brown (2.5Y 5/4) loam; massive; firm; few distinct very dark grayish brown (10YR 3/2) organo-clay films in pores; few fine irregular black (7.5YR 2.5/1) weakly cemented manganese nodules throughout; common fine distinct light brownish gray (2.5Y 6/2) iron depletions in the matrix; common fine faint light yellowish brown (2.5Y 6/4) masses of iron and manganese accumulation and common fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; strongly effervescent; slightly alkaline.

Range in Characteristics

Depth to the base of the diagnostic horizon: 40 to 70 inches
Thickness of the loess: 40 to 60 inches
Depth to carbonates: More than 40 inches

Ap or A horizon(s):
Hue—10YR
Value—3 to 5
Chroma—1 to 3
Texture—silt loam or silty clay loam

E horizon(s) (where present):
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam

Bt horizon(s):
Hue—10YR
Value—4 or 5
Chroma—3 to 6
Texture—silty clay loam

2Bt or 2BC horizon:
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—2 to 6
Texture—loam
Content of rock fragments—0 to 15 percent

2C horizon(s):
Hue—10YR or 2.5Y
Value—4 or 5

Chroma—3 or 4
Texture—commonly loam; less commonly clay loam, silty clay loam, or silt loam
Content of rock fragments—0 to 15 percent

233B—Birkbeck silt loam, 2 to 5 percent slopes

Setting

Landform: Ground moraines and end moraines
Position on the landform: Summits, shoulders, and backslopes (fig. 4)

Map Unit Composition

Birkbeck and similar soils: 100 percent

Components of Minor Extent

Similar soils:
- Soils that have slopes of less than 2 percent
- Soils that have more than 15 percent sand at a depth of less than 40 inches
- Soils that have less than 15 percent sand at a depth of more than 60 inches
- Soils that have a thinner surface layer
- Soils that have a seasonal high water table at a depth of more than 3.5 feet

Properties and Qualities of the Birkbeck Soil

Parent material: Loess over till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately slow or moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Moderate
Perched seasonal high water table: 2.0 to 3.5 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

233C2—Birkbeck silt loam, 5 to 10 percent slopes, eroded

Setting

Landform: Ground moraines and end moraines
Position on the landform: Shoulders and backslopes (fig. 4)

Map Unit Composition

Birkbeck and similar soils: 90 percent
Dissimilar soils: 10 percent

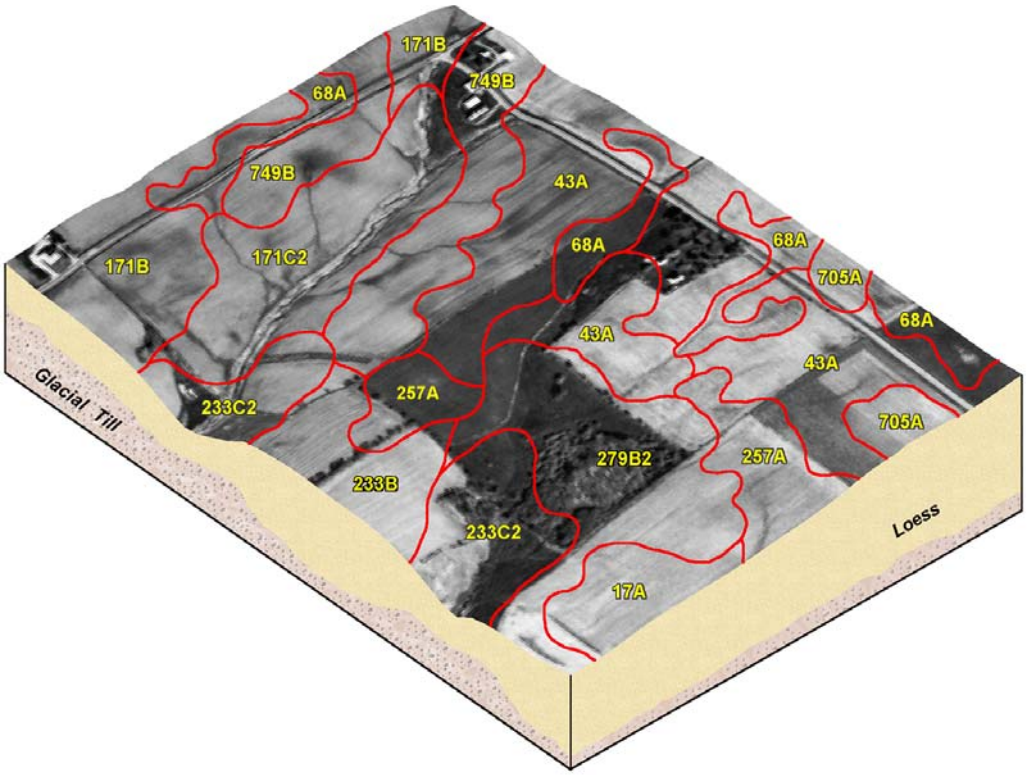


Figure 4.—Typical pattern of nearly level to moderately sloping upland soils that formed in loess and in the underlying glacial till or that formed entirely in loess.

Components of Minor Extent

Similar soils:

- Soils that have slopes of less than 5 percent
- Soils that have a seasonal high water table at a depth of more than 3.5 feet
- Soils that have less than 15 percent sand at a depth of more than 60 inches
- Soils that have more clay in the surface layer
- Soils that have a thicker surface soil

Dissimilar soils:

- The well drained Russell and Senachwine soils in positions downslope from those of the Birkbeck soil

Properties and Qualities of the Birkbeck Soil

Parent material: Loess over till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.5 percent
Shrink-swell potential: Moderate
Perched seasonal high water table: 2.0 to 3.5 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.

Potential for frost action: High
Hazard of corrosion: High for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

733C2—Birkbeck-Senachwine silt loams, 5 to 10 percent slopes, eroded

Setting

Landform: Ground moraines and end moraines
Position on the landform: Birkbeck—shoulders and backslopes; Senachwine—backslopes

Map Unit Composition

Birkbeck and similar soils: 60 percent
Senachwine and similar soils: 40 percent

Components of Minor Extent

Similar soils:
- Soils that have more clay in the surface layer
- Soils that have slopes of more than 10 percent
- Soils that have more than 15 percent sand at a depth of 20 to 40 inches

Properties and Qualities of the Birkbeck Soil

Parent material: Loess over till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: Moderate
Perched seasonal high water table: 2.0 to 3.5 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Senachwine Soil

Parent material: Till
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately slow

Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Birkbeck—3e; Senachwine—3e
Prime farmland category: Not prime farmland
Hydric soil status: Birkbeck—not hydric; Senachwine—not hydric

733C3—Birkbeck-Senachwine complex, 5 to 10 percent slopes, severely eroded

Setting

Landform: Ground moraines and end moraines
Position on the landform: Birkbeck—backslopes; Senachwine—shoulders and backslopes

Map Unit Composition

Birkbeck and similar soils: 60 percent
Senachwine and similar soils: 40 percent

Components of Minor Extent

Similar soils:
- Soils that have less clay in the surface layer
- Soils that have slopes of more than 10 percent
- Soils that have more than 15 percent sand at a depth of 20 to 40 inches

Properties and Qualities of the Birkbeck Soil

Parent material: Loess over till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.2 to 1.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table: 2.0 to 3.5 feet below the surface
Flooding: None
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Medium

Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Properties and Qualities of the Senachwine Soil

Parent material: Till
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 1.0 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Birkbeck—4e; Senachwine—4e
Prime farmland category: Not prime farmland
Hydric soil status: Birkbeck—not hydric; Senachwine—not hydric

Bloomfield Series

Taxonomic classification: Sandy, mixed, mesic Lamellic Hapludalfs

Typical Pedon

Bloomfield fine sand, 5 to 10 percent slopes; at an elevation of about 448 feet; Lawrence County, Illinois; 600 feet south and 200 feet west of the northeast corner of sec. 4, T. 3 N., R. 11 W.; USGS Lawrenceville, Illinois, topographic quadrangle; lat. 38 degrees 43 minutes 52 seconds N. and long. 87 degrees 37 minutes 59 seconds W.; UTM Zone 16, 444973E 4287134N, NAD 83:

A—0 to 5 inches; dark grayish brown (10YR 4/2) fine sand, light brownish gray (10YR 6/2) dry; weak fine granular structure; very friable; slightly acid; clear smooth boundary.
E1—5 to 24 inches; brown (10YR 4/3) fine sand; single grain; loose; moderately acid; gradual wavy boundary.
E2—24 to 38 inches; yellowish brown (10YR 5/6) fine sand; single grain; loose; moderately acid; clear smooth boundary.
E and Bt1—38 to 58 inches; yellowish brown (10YR 5/4) fine sand (E); single grain; loose; many wavy and discontinuous lamellae of brown (7.5YR 4/4) loamy fine sand and bands of Bt material (about 1/8 inch thick in the upper part and 1/8 inch to 6 inches thick in the lower part); weak coarse subangular blocky structure; friable; moderately acid; gradual wavy boundary.
E and Bt2—58 to 80 inches; yellowish brown (10YR 5/4) fine sand (E); single grain; loose; brown (7.5YR 4/4) loamy fine sand (Bt); weak coarse subangular blocky structure; friable; bands are nearly continuous and are 4 to 8 inches in thickness; moderately acid.

Range in Characteristics

Depth to the base of the diagnostic horizon: 60 to more than 80 inches
Thickness of lamellae and banded layers: 0 to 8 inches
Combined thickness of the lamellae above a depth of 60 inches: More than 6 inches

Ap or A horizon(s):
Hue—10YR
Value—3 or 4
Chroma—2 to 4
Texture—fine sand

E horizon(s):
Hue—10YR
Value—4 to 6
Chroma—3 to 6
Texture—fine sand, loamy fine sand, sand, or loamy sand

E and Bt horizon (E part):
Hue—10YR or 7.5YR
Value—4 to 6
Chroma—3 to 6
Texture—fine sand, loamy fine sand, loamy sand, or sand

E and Bt horizon (Bt part):
Hue—10YR, 7.5YR, or 5YR
Value—3 to 5
Chroma—3 to 6
Texture—loamy fine sand, loamy sand, or fine sand (less commonly sand, fine sandy loam, or sandy loam)

C horizon(s) (where present):
Hue—10YR
Value—4 to 7
Chroma—2 to 6
Texture—fine sand, loamy fine sand, or sand

861B2—Princeton-Bloomfield fine sands, 1 to 7 percent slopes, eroded

Setting

Landform: Dunes on ground moraines
Position on the landform: Princeton—shoulders and backslopes; Bloomfield—summits and shoulders (fig. 5)

Map Unit Composition

Princeton and similar soils: 45 percent
Bloomfield and similar soils: 40 percent
Dissimilar soils: 15 percent

Components of Minor Extent

Similar soils:
- Soils that have less sand and more clay in the surface layer

Dissimilar soils:
- The well drained Middletown and Thebes soils in positions similar to those of the Princeton and Bloomfield soils

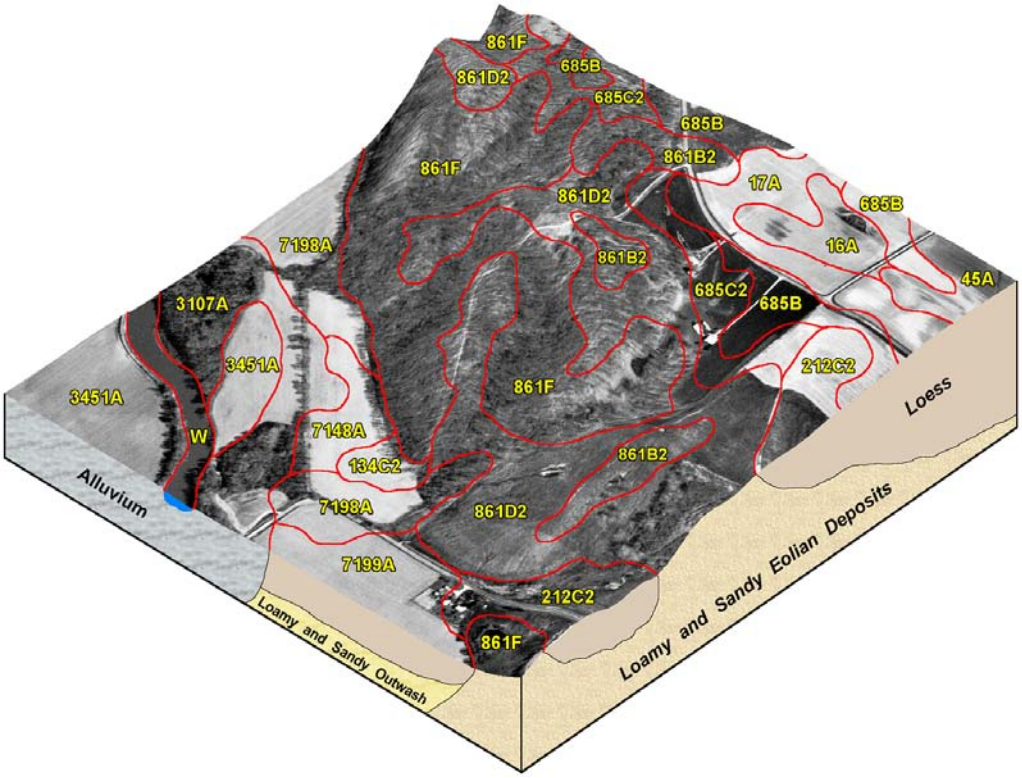


Figure 5.—Typical pattern of nearly level to steep upland forest soils that formed in loess, in loess and the underlying sandy and loamy eolian deposits, or entirely in the eolian deposits; nearly level to moderately sloping soils that formed in loess and the underlying loamy and sandy outwash on stream terraces and flood-plain steps; and nearly level soils that formed in alluvium on flood plains.

- The somewhat poorly drained Stronghurst and Lawndale soils in the less sloping positions

Properties and Qualities of the Princeton Soil

Parent material: Eolian deposits
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 1.5 percent
Shrink-swell potential: Low
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Very high

Properties and Qualities of the Bloomfield Soil

Parent material: Eolian sands
Drainage class: Somewhat excessively drained
Slowest permeability within a depth of 40 inches: Moderately rapid
Permeability below a depth of 60 inches: Moderately rapid or rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 1.5 percent
Shrink-swell potential: Low
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Low
Hazard of corrosion: Low for steel and high for concrete
Surface runoff class: Very low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Very high

Interpretive Groups

Land capability classification: Princeton—2e; Bloomfield—3s
Prime farmland category: Prime farmland
Hydric soil status: Princeton—not hydric; Bloomfield—not hydric

861D2—Princeton-Bloomfield fine sands, 7 to 15 percent slopes, eroded

Setting

Landform: Dunes on ground moraines
Position on the landform: Princeton—shoulders and backslopes; Bloomfield—summits and shoulders (fig. 5)

Map Unit Composition

Princeton and similar soils: 45 percent
Bloomfield and similar soils: 40 percent
Dissimilar soils: 15 percent

Components of Minor Extent

Similar soils:
- Soils that have less sand and more clay in the surface layer

Dissimilar soils:
- The somewhat poorly drained Lawndale and Stronghurst soils in the less sloping positions
- The well drained Middletown and Thebes soils in positions similar to those of the Princeton and Bloomfield soils

Properties and Qualities of the Princeton Soil

Parent material: Eolian deposits
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 1.5 percent
Shrink-swell potential: Low
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Very high

Properties and Qualities of the Bloomfield Soil

Parent material: Eolian sands
Drainage class: Somewhat excessively drained
Slowest permeability within a depth of 40 inches: Moderately rapid
Permeability below a depth of 60 inches: Moderately rapid or rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 1.5 percent
Shrink-swell potential: Low
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Low
Hazard of corrosion: Low for steel and high for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Very high

Interpretive Groups

Land capability classification: Princeton—4e; Bloomfield—4e
Prime farmland category: Prime farmland
Hydric soil status: Princeton—not hydric; Bloomfield—not hydric

861F—Princeton-Bloomfield fine sands, 15 to 35 percent slopes

Setting

Landform: Dunes on ground moraines
Position on the landform: Backslopes (fig. 5)

Map Unit Composition

Princeton and similar soils: 45 percent
Bloomfield and similar soils: 40 percent
Dissimilar soils: 15 percent

Components of Minor Extent

Similar soils:
- Soils that have more clay and less sand in the surface layer
- Soils that have slopes of less than 15 percent

Dissimilar soils:
- The well drained Middletown soils in the less sloping positions

- The well drained Thebes soils in positions similar to those of the Princeton and Bloomfield soils
- The well drained Hickory and Sylvan soils in positions downslope from those of the Princeton and Bloomfield soils

Properties and Qualities of the Princeton Soil

Parent material: Eolian deposits
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Low
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: High
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Very high

Properties and Qualities of the Bloomfield Soil

Parent material: Eolian sands
Drainage class: Somewhat excessively drained
Slowest permeability within a depth of 40 inches: Moderately rapid
Permeability below a depth of 60 inches: Moderately rapid or rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Low
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Potential for frost action: Low
Hazard of corrosion: Low for steel and high for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Very high

Interpretive Groups

Land capability classification: Princeton—6e; Bloomfield—6e
Prime farmland category: Not prime farmland
Hydric soil status: Princeton—not hydric; Bloomfield—not hydric

Bold Series

Taxonomic classification: Coarse-silty, mixed, superactive, calcareous, mesic Typic Udorthents

Typical Pedon

Bold silt loam, in an area of Sylvan-Bold complex, 10 to 18 percent slopes, severely eroded; at an elevation of 730 feet; Henry County, Illinois; 600 feet north and 900 feet east of the southwest corner of sec. 7, T. 16 N., R. 3 E.; USGS Geneseo, Illinois,

topographic quadrangle; lat. 41 degrees 23 minutes 04 seconds N. and long. 90 degrees 11 minutes 57 seconds W.; UTM Zone 15, 734182E 4585225N, NAD 83:

Ap—0 to 8 inches; mixed brown (10YR 4/3), dark grayish brown (10YR 4/2), and yellowish brown (10YR 5/4) silt loam, pale brown (10YR 6/3) and light yellowish brown (10YR 6/4) dry; weak very fine and fine granular structure; friable; slightly effervescent; moderately alkaline; abrupt smooth boundary.
C1—8 to 16 inches; yellowish brown (10YR 5/6) silt loam; massive; friable; strongly effervescent; moderately alkaline; abrupt smooth boundary.
C2—16 to 37 inches; light brownish gray (10YR 6/2) and yellowish brown (10YR 5/6) silt loam; massive; friable; strongly effervescent; moderately alkaline; clear smooth boundary.
C3—37 to 60 inches; yellowish brown (10YR 5/6) and light brownish gray (10YR 6/2) silt loam; massive; friable; strongly effervescent; moderately alkaline; clear wavy boundary.
C4—60 to 80 inches; light brownish gray (10YR 6/2) and yellowish brown (10YR 5/6) silt loam; massive; few coarse prominent strong brown (7.5YR 5/8) iron accumulations; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the loess: More than 6 feet
Depth to the base of the diagnostic horizon: 3 to 12 inches

Ap horizon(s):
Hue—10YR
Value—4 to 6
Chroma—2 to 6
Texture—silt loam

C horizon(s):
Hue—10YR
Value—4 to 7
Chroma—2 to 8
Texture—silt loam or silt

965C2—Tallula-Bold silt loams, 5 to 10 percent slopes, eroded

Setting

Landform: Ground moraines
Position on the landform: Shoulders and backslopes

Map Unit Composition

Tallula and similar soils: 55 percent
Bold and similar soils: 45 percent

Components of Minor Extent

Similar soils:
- Soils that have carbonates at a depth of more than 35 inches and have more clay in the subsoil
- Soils that have a seasonal high water table within a depth of 6 feet
- Soils that have more clay in the subsoil
- Soils that have slopes of more than 10 percent

Properties and Qualities of the Tallula Soil

Parent material: Loess
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 3 percent
Shrink-swell potential: Low
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Low for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Properties and Qualities of the Bold Soil

Parent material: Calcareous loess
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 13.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 2 percent
Shrink-swell potential: Low
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Low for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Tallula—3e; Bold—3e
Prime farmland category: Not prime farmland
Hydric soil status: Tallula—not hydric; Bold—not hydric

965D2—Tallula-Bold silt loams, 10 to 18 percent slopes, eroded

Setting

Landform: Ground moraines
Position on the landform: Backslopes

Map Unit Composition

Tallula and similar soils: 50 percent
Bold and similar soils: 40 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have carbonates at a depth of more than 35 inches and have more clay in the subsoil
- Soils that have more clay in the subsoil
- Soils that have slopes of less than 10 percent

Dissimilar soils:
- The well drained Osco soils on summits and shoulders

Properties and Qualities of the Tallula Soil

Parent material: Loess
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 3 percent
Shrink-swell potential: Low
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Low for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Bold Soil

Parent material: Calcareous loess
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 13.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 2 percent
Shrink-swell potential: Low
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Low for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Tallula—4e; Bold—4e
Prime farmland category: Not prime farmland
Hydric soil status: Tallula—not hydric; Bold—not hydric

Brenton Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Aquic Argiudolls

Typical Pedon

Brenton silt loam, 0 to 2 percent slopes; at an elevation of about 768 feet; McLean County, Illinois; 525 feet east and 1,620 feet south of the northwest corner of sec. 15, T. 22 N., R. 6 E.; USGS Bellflower, Illinois, topographic quadrangle; lat. 40 degrees 21 minutes 53 seconds N. and long. 88 degrees 30 minutes 55 seconds W.; UTM Zone 16, 371340E 4469120N, NAD 83:

Ap1—0 to 8 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; moderate medium granular structure; friable; many very fine roots throughout; moderately acid; abrupt smooth boundary.

Ap2—8 to 14 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; weak fine subangular blocky structure parting to moderate medium granular; friable; common very fine roots throughout; few very fine tubular pores; moderately acid; abrupt smooth boundary.

Bt1—14 to 17 inches; brown (10YR 4/3) silty clay loam; moderate medium subangular blocky structure; friable; common very fine roots along faces of peds; few very fine tubular pores; few distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; few fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few fine distinct black (10YR 2/1) manganese concretions and stains throughout; moderately acid; clear smooth boundary.

Bt2—17 to 22 inches; olive brown (2.5Y 4/4) silty clay loam; weak fine prismatic structure parting to moderate medium angular blocky; friable; common very fine and few fine roots along faces of peds; few very fine and fine tubular pores; common distinct dark brown (10YR 3/3) organo-clay films on faces of peds; few fine distinct dark grayish brown (10YR 4/2) iron depletions in the matrix; few fine prominent black (10YR 2/1) manganese concretions and stains throughout; moderately acid; clear smooth boundary.

Bt3—22 to 28 inches; olive brown (2.5Y 4/4) silty clay loam; moderate medium prismatic structure parting to moderate fine and medium angular blocky; friable; common very fine and few fine roots along faces of peds; few very fine and fine tubular pores; common distinct dark brown (10YR 3/3) organo-clay films on faces of peds; few fine distinct grayish brown (10YR 5/2) iron depletions and faint yellowish brown (10YR 5/4) masses of iron and manganese accumulation in the matrix; few fine prominent black (10YR 2/1) manganese concretions and stains throughout; moderately acid; clear smooth boundary.

Bt4—28 to 33 inches; light olive brown (2.5Y 5/4) silty clay loam; moderate medium prismatic structure parting to strong medium subangular blocky; friable; common very fine and few fine roots along faces of peds; few very fine tubular pores; few distinct grayish brown (10YR 5/2) clay films on faces of peds; common fine and medium distinct grayish brown (2.5Y 5/2) iron depletions in the matrix; few fine prominent black (10YR 2/1) manganese concretions and stains throughout; moderately acid; clear smooth boundary.

2Bt5—33 to 45 inches; olive brown (2.5Y 4/4), stratified loam and fine sandy loam; moderate medium and coarse subangular blocky structure; friable; few very fine roots along faces of peds; few very fine tubular pores; many distinct very dark grayish brown (2.5Y 3/2) organo-clay films lining root channels and common distinct grayish brown (2.5Y 5/2) clay films on faces of peds; few fine distinct grayish brown (2.5Y 5/2) iron depletions and common fine and medium distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common

fine prominent black (10YR 2/1) manganese concretions and stains throughout; slightly acid; clear smooth boundary.

2BC—45 to 54 inches; light olive brown (2.5Y 5/6) and light brownish gray (2.5Y 6/2) loam; weak medium subangular blocky structure; friable; few very fine roots along faces of peds; few very fine tubular pores; many distinct very dark grayish brown (2.5Y 3/2) organo-clay films lining root channels and pores; common fine prominent black (10YR 2/1) manganese concretions and stains throughout; neutral; clear smooth boundary.

2Cg1—54 to 69 inches; gray (2.5Y 6/1) silt loam; weak thick and very thick platy rock structure; very friable; few very fine roots throughout; many very fine horizontal tubular pores between plates and few very fine vertical tubular pores through plates; many very dark grayish brown (2.5Y 3/2) organo-clay films lining root channels and pores; common fine and medium prominent light olive brown (2.5Y 5/6) masses of iron accumulation in the matrix; common very fine and fine prominent black (10YR 2/1) masses of manganese accumulation in the matrix; slightly effervescent; neutral; clear smooth boundary.

2Cg2—69 to 80 inches; gray (2.5Y 6/1) silt; massive; very friable; few very fine roots throughout; few very fine tubular pores; common fine and medium prominent yellowish brown (10YR 5/6 and 5/8) masses of iron accumulation in the matrix; strongly effervescent; slightly alkaline.

Range in Characteristics

Depth to the base of the diagnostic horizon: 40 to 60 inches
Thickness of the loess: 24 to 40 inches
Thickness of the mollic epipedon: 10 to 19 inches
Depth to carbonates: More than 40 inches

Ap or A horizon(s):
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—silt loam

Bt horizon(s):
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 4
Texture—silty clay loam

2Bt and 2BC horizons:
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—2 to 6
Texture—stratified loam to fine sandy loam
Content of rock fragments—0 to 5 percent

2Cg or 2C horizon(s):
Hue—2.5Y, 10YR, or 7.5YR
Value—4 to 6
Chroma—1 to 6
Texture—stratified silt to fine sandy loam
Content of rock fragments—0 to 15 percent

149A—Brenton silt loam, 0 to 2 percent slopes

Setting

Landform: Stream terraces and outwash plains
Position on the landform: Talfs

Map Unit Composition

Brenton and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have less sand in the lower part of the subsoil
- Soils that have more sand in the surface soil and in the upper part of the subsoil
- Soils that have slopes of more than 2 percent

Dissimilar soils:
- The well drained Proctor soils in the slightly higher positions
- The poorly drained Drummer soils in swales

Properties and Qualities of the Brenton Soil

Parent material: Loess over stratified loamy outwash
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.5 to 5.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: 1 to 2 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Broadwell Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Argiudolls
Taxadjunct features: The Broadwell soils in map units 684C2, 827B2, and 828D2 have a thinner dark surface layer than is defined as the range for the series. This difference, however, does not significantly affect the use and management of the soils. These soils are classified as fine-silty, mixed, superactive, mesic Mollic Hapludalfs.

Typical Pedon

Broadwell silt loam, 2 to 5 percent slopes; at an elevation of about 625 feet; Christian County, Illinois; about 2,500 feet north and 460 feet west of the center of sec. 11, T. 15

N., R. 2 W.; USGS Mount Auburn topographic quadrangle; lat. 39 degrees 46 minutes 17 seconds N. and long. 89 degrees 16 minutes 51 seconds W.; UTM Zone 16, 304645E 4404877N, NAD 83:

Ap—0 to 9 inches; very dark grayish brown (10YR 3/2) silt loam, brown (10YR 5/3) dry; weak fine granular structure; friable; common very fine roots and few fine roots; moderately acid; clear smooth boundary.

A—9 to 15 inches; very dark grayish brown (10YR 3/2) silt loam, brown (10YR 5/3) dry; moderate fine granular structure; friable; few very fine and fine roots; slightly acid; clear smooth boundary.

Bt1—15 to 18 inches; dark brown (10YR 3/3) silty clay loam, yellowish brown (10YR 5/4) dry; weak very fine and fine subangular blocky structure; friable; few very fine and fine roots; many faint very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; slightly acid; clear smooth boundary.

Bt2—18 to 25 inches; brown (10YR 4/3) silty clay loam; moderate fine subangular blocky structure; firm; few very fine and fine roots; common faint very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; moderately acid; clear smooth boundary.

Bt3—25 to 31 inches; brown (10YR 4/3) silty clay loam; moderate fine subangular blocky structure; firm; few very fine and fine roots; common faint very dark grayish brown (10YR 3/2) organo-clay films in root channels and/or pores and common faint brown (10YR 4/3) clay films on faces of peds; moderately acid; clear smooth boundary.

Bt4—31 to 41 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium subangular blocky structure; firm; few very fine and fine roots; few distinct very dark grayish brown (10YR 3/2) organo-clay films in root channels and/or pores, common faint brown (10YR 4/3) clay films on faces of peds, and few distinct light gray (10YR 7/2) silt coatings on faces of peds and in pores; moderately acid; clear smooth boundary.

Bt5—41 to 50 inches; dark yellowish brown (10YR 4/4) silt loam; weak medium and coarse subangular blocky structure; friable; few very fine roots; common faint brown (10YR 4/3) clay films on faces of peds; few distinct light gray (10YR 7/2) silt coatings on faces of peds and in pores; few fine faint brown (10YR 5/3) masses of iron and manganese accumulation along micropores; moderately acid; abrupt smooth boundary.

2BC1—50 to 55 inches; dark yellowish brown (10YR 4/4), stratified loamy fine sand and sandy loam; weak coarse subangular blocky structure; very friable; slightly acid; clear smooth boundary.

2BC2—55 to 76 inches; stratified yellowish brown (10YR 5/4) and brown (7.5YR 4/4) fine sand and loamy sand; single grain; loose; few distinct dark brown (7.5YR 3/2) organic coatings in pores; 3-inch band of yellowish brown (10YR 5/6) silt loam starting at a depth of 73 inches; neutral; clear smooth boundary.

2C—76 to 80 inches; yellowish brown (10YR 5/4) fine sand; single grain; slightly acid.

Range in Characteristics

Thickness of the loess: 40 to 60 inches
Thickness of the mollic epipedon or dark surface layer: 7 to 18 inches
Depth to the base of the diagnostic horizon: 45 to 80 inches

Ap or A horizon(s):
Hue—10YR
Value—2 or 3
Chroma—1 to 3
Texture—silt loam

Bt horizon(s):
Hue—10YR or 7.5YR
Value—3 to 5
Chroma—3 to 6
Texture—silt loam or silty clay loam

2Bt or 2BC horizon(s):
Hue—10YR or 7.5YR
Value—4 or 5
Chroma—4 to 6
Texture—loamy sand, loamy fine sand, fine sand, sandy loam, loam, silt loam, or clay loam; some pedons are stratified

2C horizon(s):
Hue—10YR or 7.5YR
Value—4 or 5
Chroma—4 to 6
Texture—fine sand, sand, loamy sand, or loamy fine sand; some pedons are stratified

684A—Broadwell silt loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines and flats
Position on the landform: Summits and talfs (fig. 6)

Map Unit Composition

Broadwell and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have slopes of more than 2 percent
- Soils that have more sand in the surface soil and in the upper part of the subsoil
- Soils that have sandy material at a depth of less than 40 inches
- Soils that have less than 10 percent sand to a depth of more than 60 inches
- Soils that have a seasonal high water table within a depth of 6 feet

Dissimilar soils:
- The somewhat poorly drained Lawndale soils in the slightly lower positions

Properties and Qualities of the Broadwell Soil

Parent material: Loess over eolian sands
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 4 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Low

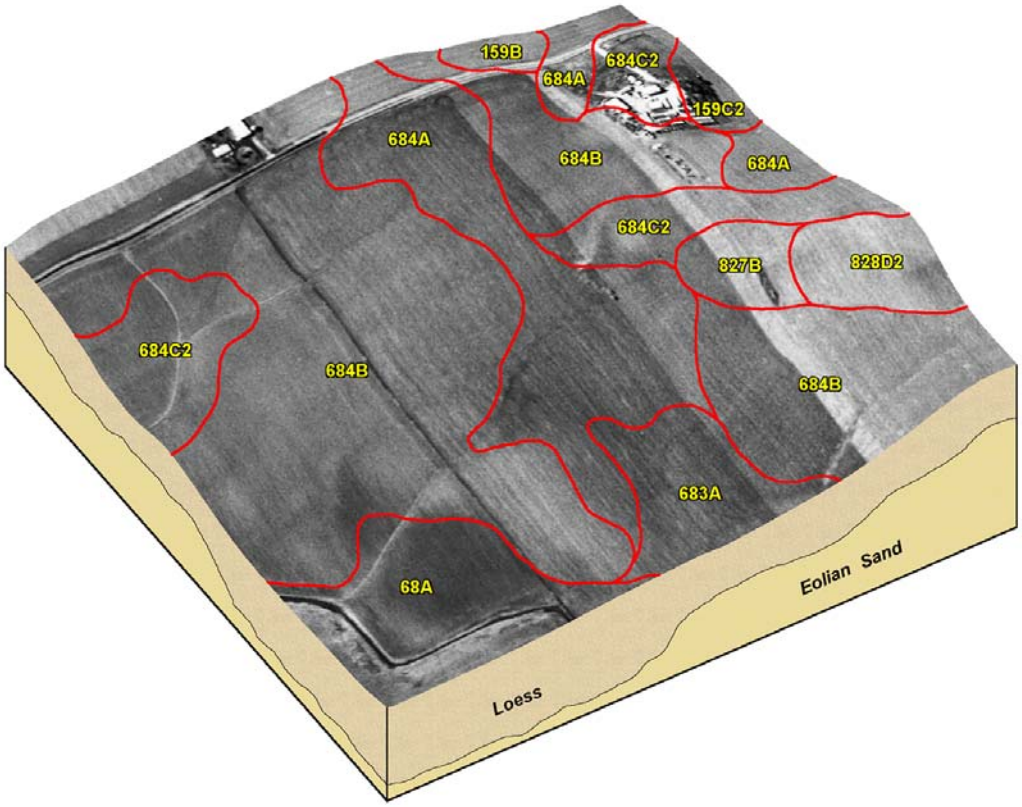


Figure 6.—Typical pattern of nearly level to strongly sloping upland prairie soils that formed in loess, in loess and the underlying sandy eolian deposits, or entirely in sandy eolian deposits.

Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

684B—Broadwell silt loam, 2 to 5 percent slopes

Setting

Landform: Knolls, ground moraines, and low hills
Position on the landform: Summits, shoulders, and backslopes (fig. 6)

Map Unit Composition

Broadwell and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have slopes of more than 5 percent
- Soils that have sandy material at a depth of less than 40 inches

- Soils that have less than 10 percent sand to a depth of more than 60 inches
- Soils that have a thinner dark surface layer

Dissimilar soils:

- The somewhat poorly drained Lawndale soils in the less sloping positions
- The excessively drained Sparta soils in positions similar to those of the Broadwell soil

Properties and Qualities of the Broadwell Soil

Parent material: Loess over eolian sands
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 4 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

684C2—Broadwell silt loam, 5 to 10 percent slopes, eroded

Setting

Landform: Knolls, ground moraines, and low hills
Position on the landform: Shoulders and backslopes (fig. 6)

Map Unit Composition

Broadwell and similar soils: 95 percent
Dissimilar soils: 5 percent

Components of Minor Extent

Similar soils:

- Soils that have less than 10 percent sand to a depth of more than 60 inches
- Soils that have sandy material at a depth of less than 40 inches
- Soils in which the surface layer has more clay and is lighter in color
- Soils that have slopes of less than 5 percent
- Soils that have slopes of more than 10 percent

Dissimilar soils:

- The excessively drained Sparta soils on summits

Properties and Qualities of the Broadwell Soil

Parent material: Loess over eolian sands
Drainage class: Well drained

Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 3 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

827A—Broadwell-Onarga complex, 0 to 2 percent slopes

Setting

Landform: Stream terraces and ground moraines
Position on the landform: Talfs

Map Unit Composition

Broadwell and similar soils: 50 percent
Onarga and similar soils: 30 percent
Dissimilar soils: 20 percent

Components of Minor Extent

Similar soils:
- Soils that have sandy material at a depth of more than 60 inches

Dissimilar soils:
- The somewhat poorly drained Lawndale soils in the slightly lower positions
- The excessively drained Sparta soils in the slightly higher positions

Properties and Qualities of the Broadwell Soil

Parent material: Loess over eolian sands
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 4 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Low

Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Properties and Qualities of the Onarga Soil

Parent material: Loamy eolian deposits over eolian sands
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Low
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and moderate for concrete
Surface runoff class: Very low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderately high

Interpretive Groups

Land capability classification: Broadwell—1; Onarga—2s
Prime farmland category: Prime farmland
Hydric soil status: Broadwell—not hydric; Onarga—not hydric

827B—Broadwell-Onarga complex, 2 to 5 percent slopes

Setting

Landform: Knolls, ground moraines, and stream terraces
Position on the landform: Broadwell—shoulders and backslopes; Onarga—summits and shoulders (fig. 6)

Map Unit Composition

Broadwell and similar soils: 50 percent
Onarga and similar soils: 30 percent
Dissimilar soils: 20 percent

Components of Minor Extent

Similar soils:
- Soils that have sandy material at a depth of more than 60 inches
- Soils that have slopes of less than 2 percent
- Soils that have slopes of more than 5 percent
- Soils that have a thinner dark surface layer

Dissimilar soils:
- The somewhat poorly drained Lawndale soils in the less sloping areas
- The excessively drained Sparta soils in positions similar to those of the Broadwell and Onarga soils

Properties and Qualities of the Broadwell Soil

Parent material: Loess over eolian sands
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Rapid

Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 4 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Properties and Qualities of the Onarga Soil

Parent material: Loamy eolian deposits over eolian sands
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Low
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and moderate for concrete
Surface runoff class: Very low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderately high

Interpretive Groups

Land capability classification: Broadwell—2e; Onarga—2e
Prime farmland category: Prime farmland
Hydric soil status: Broadwell—not hydric; Onarga—not hydric

827B2—Broadwell-Onarga complex, 2 to 5 percent slopes, eroded

Setting

Landform: Stream terraces, ground moraines, and knolls
Position on the landform: Broadwell—shoulders and backslopes; Onarga—summits and shoulders

Map Unit Composition

Broadwell and similar soils: 50 percent
Onarga and similar soils: 30 percent
Dissimilar soils: 20 percent

Components of Minor Extent

Similar soils:
- Soils that have sandy material starting at a depth of more than 60 inches
- Soils that have a thicker dark surface soil
- Soils that have slopes of more than 5 percent

Dissimilar soils:
- The excessively drained Sparta soils in positions similar to those of the Broadwell and Onarga soils
- The somewhat poorly drained Lawndale soils in the less sloping positions

Properties and Qualities of the Broadwell Soil

Parent material: Loess over eolian sands
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 3 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Properties and Qualities of the Onarga Soil

Parent material: Loamy eolian deposits over eolian sands
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 2 percent
Shrink-swell potential: Low
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and moderate for concrete
Surface runoff class: Very low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderately high

Interpretive Groups

Land capability classification: Broadwell—2e; Onarga—2e
Prime farmland category: Prime farmland
Hydric soil status: Broadwell—not hydric; Onarga—not hydric

828D2—Broadwell-Sparta complex, 7 to 15 percent slopes, eroded

Setting

Landform: Dunes on ground moraines
Position on the landform: Broadwell—shoulders and backslopes; Sparta—summits and shoulders (fig. 6)

Map Unit Composition

Broadwell and similar soils: 50 percent
Sparta and similar soils: 40 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have a thicker dark surface soil
- Soils that have sandy material starting at a depth of more than 60 inches
- Soils that have slopes of less than 7 percent
- Soils that have slopes of more than 15 percent

Dissimilar soils:
- The somewhat poorly drained Lawndale soils in the less sloping positions

Properties and Qualities of the Broadwell Soil

Parent material: Loess over eolian sands
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 3 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Sparta Soil

Parent material: Eolian sands
Drainage class: Excessively drained
Slowest permeability within a depth of 40 inches: Moderately rapid
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 4.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Low
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Low
Hazard of corrosion: Low for steel and high for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: High

Interpretive Groups

Land capability classification: Broadwell—3e; Sparta—6s
Prime farmland category: Not prime farmland
Hydric soil status: Broadwell—not hydric; Sparta—not hydric

Buckhart Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Oxyaquic Argiudolls

Typical Pedon

Buckhart silt loam, 2 to 5 percent slopes; at an elevation of about 603 feet; Christian County, Illinois; approximately 360 feet west and 540 feet north of the southeast corner of sec. 24, T. 14 N., R. 3 W.; USGS Grove City, Illinois, topographic quadrangle; lat. 39 degrees 38 minutes 30 seconds N. and long. 89 degrees 22 minutes 25 seconds W.; UTM Zone 16, 296316E 4390685N, NAD 83:

Ap—0 to 8 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate medium granular structure; friable; few very fine roots; moderately acid; clear smooth boundary.

A—8 to 15 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine subangular blocky structure parting to moderate medium granular; friable; few very fine roots; moderately acid; clear smooth boundary.

Bt1—15 to 26 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium subangular blocky structure parting to moderate medium granular; friable; few very fine roots; many distinct brown (10YR 4/3) clay films on faces of peds and few distinct very dark grayish brown (10YR 3/2) organic coatings in root channels and pores; slightly acid; clear smooth boundary.

Bt2—26 to 37 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium subangular blocky structure; friable; few very fine roots; many distinct dark grayish brown (10YR 4/2) clay films on faces of peds; few fine irregular distinct strong brown (7.5YR 5/6) masses of iron accumulation along pores and few fine irregular distinct light brownish gray (2.5Y 6/2) iron depletions along pores; neutral; clear smooth boundary.

Bt3—37 to 52 inches; brown (10YR 5/3) silt loam; weak medium subangular blocky structure; friable; few very fine roots; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common fine irregular prominent strong brown (7.5YR 5/6) masses of iron accumulation along pores, few fine rounded prominent black (7.5YR 2.5/1) manganese nodules throughout, and common fine faint irregular light brownish gray (2.5Y 6/2) iron depletions along pores; slightly acid; clear smooth boundary.

BCt—52 to 67 inches; light olive brown (2.5Y 5/3) silt loam; weak coarse subangular blocky structure; friable; few very fine roots; few distinct dark grayish brown (10YR 4/2) clay films in root channels and pores; common fine irregular prominent strong brown (7.5YR 5/6) masses of iron accumulation along pores, common fine faint irregular light brownish gray (2.5Y 6/2) iron depletions along pores, and few fine rounded prominent black (7.5YR 2.5/1) manganese nodules throughout; neutral; gradual smooth boundary.

C—67 to 80 inches; yellowish brown (10YR 5/4) silt loam; massive; friable; common medium irregular distinct strong brown (7.5YR 5/6) masses of iron accumulation, common medium irregular distinct light brownish gray (2.5Y 6/2) iron depletions, and few fine rounded prominent black (7.5YR 2.5/1) manganese nodules throughout; neutral.

Range in Characteristics

Depth to the base of the diagnostic horizon: 40 to 55 inches
Thickness of the mollic epipedon: 10 to 18 inches
Depth to carbonates: 40 to more than 80 inches
Other features: The Buckhart soil in map unit 749B has a till substratum within a depth of 80 inches. The characteristics of this layer are the same as those described for the 2C horizon(s) below.

Ap or A horizon(s):
Hue—10YR
Value—2 or 3
Chroma—1 to 3
Texture—silt loam or silty clay loam

Bt or Btg horizon(s):
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 6
Texture—silt loam or silty clay loam

BC, BCt, or BCg horizon(s):
Hue—10YR or 2.5Y
Value—5 or 6
Chroma—2 to 4
Texture—silt loam or silty clay loam

C or Cg horizon(s):
Hue—10YR or 2.5Y
Value—5 or 6
Chroma—2 to 6
Texture—silt loam or silty clay loam

2C horizon(s) (where present):
Hue—7.5YR, 10YR, or 2.5Y
Value—4 or 5
Chroma—2 to 8
Texture—loam
Content of rock fragments—0 to 10 percent

705A—Buckhart silt loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines and knolls
Position on the landform: Talfs and summits (fig. 4; fig. 7)

Map Unit Composition

Buckhart and similar soils: 95 percent
Dissimilar soils: 5 percent

Components of Minor Extent

Similar soils:
- Soils that have a seasonal high water table at a depth of more than 3.5 feet
- Soils that have a seasonal high water table at a depth of less than 2 feet

Dissimilar soils:
- The poorly drained Denny soils in depressions

Properties and Qualities of the Buckhart Soil

Parent material: Loess
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.2 inches to a depth of 60 inches

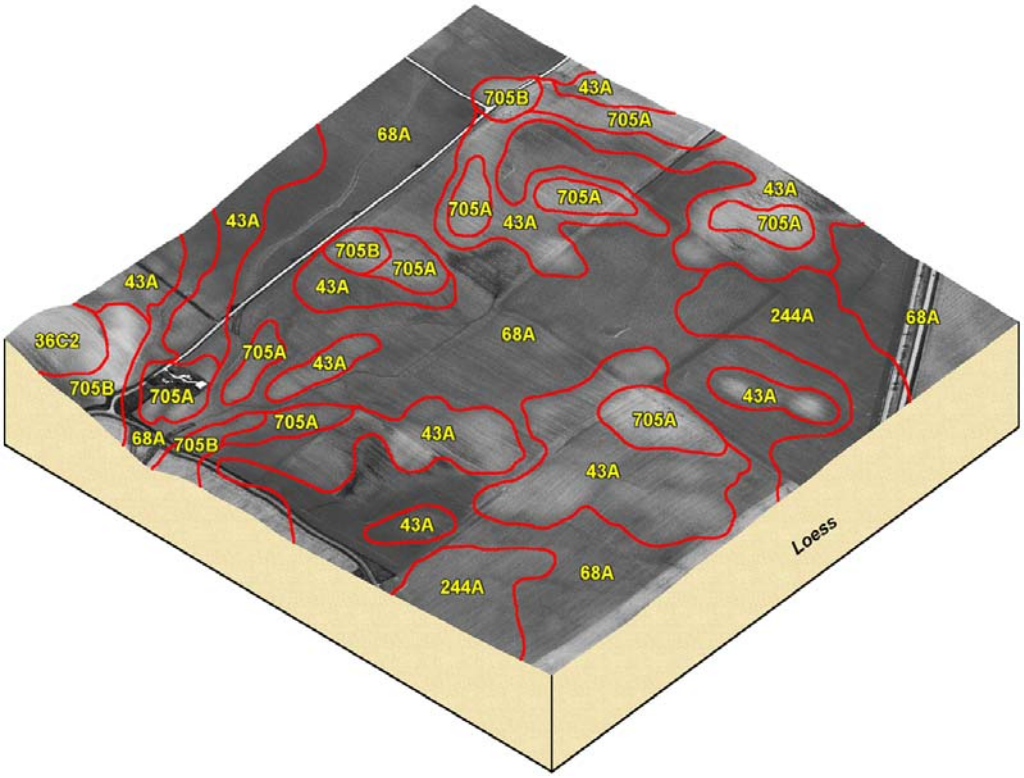


Figure 7.—Typical pattern of nearly level to moderately sloping upland prairie soils that formed in loess.

Content of organic matter in the surface layer: 3 to 4 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: 2.0 to 3.5 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

705B—Buckhart silt loam, 2 to 5 percent slopes

Setting

Landform: Knolls on ground moraines
Position on the landform: Summits, shoulders, and backslopes (fig. 7)

Map Unit Composition

Buckhart and similar soils: 100 percent

Components of Minor Extent

Similar soils:
- Soils that have a seasonal high water table at a depth of more than 3.5 feet
- Soils that have a thinner dark surface soil
- Soils that have slopes of less than 2 percent

Properties and Qualities of the Buckhart Soil

Parent material: Loess
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 4 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: 2.0 to 3.5 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

749B—Buckhart silt loam, till substratum, 2 to 5 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Summits, shoulders, and backslopes (fig. 4)

Map Unit Composition

Buckhart and similar soils: 100 percent

Components of Minor Extent

Similar soils:
- Soils that have more than 15 percent sand at a depth of less than 60 inches
- Soils that have less sand in the underlying material
- Soils that have a seasonal high water table at a depth of more than 3.5 feet
- Soils that have slopes of less than 2 percent
- Soils that have a seasonal high water table at a depth of less than 2 feet

Properties and Qualities of the Buckhart Soil

Parent material: Very deep loess over till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately slow or moderate
Depth to restrictive feature: More than 80 inches

Available water capacity: About 11.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 4 percent
Shrink-swell potential: Moderate
Perched seasonal high water table: 2.0 to 3.5 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Camden Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Hapludalfs

Typical Pedon

Camden silt loam, 0 to 2 percent slopes; at an elevation of about 560 feet; Bureau County, Illinois; about 1,280 feet west and 1,740 feet south of the northeast corner of sec. 12, T. 15 N., R. 8 E.; USGS Wyanet topographic quadrangle; lat. 41 degrees 18 minutes 05 seconds N. and long. 89 degrees 30 minutes 52 seconds W.; UTM Zone 16, 289481E 4575269N, NAD 83:

Ap—0 to 7 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; moderate fine granular structure; friable; few fine roots; slightly acid; abrupt smooth boundary.
E—7 to 12 inches; yellowish brown (10YR 5/4) silt loam; weak medium platy structure parting to weak very fine subangular blocky; friable; few fine roots; neutral; clear smooth boundary.
Bt1—12 to 18 inches; yellowish brown (10YR 5/6) silty clay loam; moderate fine subangular blocky structure; friable; few fine roots; common distinct yellowish brown (10YR 5/4) clay films on faces of peds; neutral; clear smooth boundary.
Bt2—18 to 26 inches; yellowish brown (10YR 5/6) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; friable; few fine roots; many distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; moderately acid; clear smooth boundary.
2Bt3—26 to 34 inches; yellowish brown (10YR 5/6) clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; friable; few fine roots; many distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; moderately acid; clear smooth boundary.
2Bt4—34 to 37 inches; strong brown (7.5YR 5/6) clay loam; weak medium subangular blocky structure; friable; few fine roots; many distinct brown (7.5YR 4/4) clay films on faces of peds; about 7 percent gravel; slightly acid; clear smooth boundary.
2Bt5—37 to 48 inches; strong brown (7.5YR 5/6) sandy clay loam; 1-inch strata of yellowish brown (10YR 5/6) sandy loam; weak medium subangular blocky structure; friable; common distinct brown (7.5YR 4/4) clay films on faces of peds; about 5 percent gravel; slightly acid; clear smooth boundary.
2Bt6—48 to 53 inches; strong brown (7.5YR 5/6) sandy loam; weak medium subangular blocky structure; friable; common distinct brown (7.5YR 4/4) clay films bridging sand grains; about 2 percent gravel; neutral; clear wavy boundary.

2C—53 to 60 inches; brown (7.5YR 4/4) sandy loam that has thin strata of loamy sand; single grain; loose; about 5 percent gravel; neutral.

Range in Characteristics

Thickness of the loess: 24 to 40 inches
Depth to the base of the diagnostic horizon(s): 30 to 65 inches

Ap horizon(s):
Hue—10YR
Value—3 to 5; 3 in horizons that are less than 6 inches thick
Chroma—2 or 3
Texture—silt loam or silty clay loam

E horizon(s) (where present):
Hue—10YR
Value—4 to 6
Chroma—2 to 4
Texture—silt loam

Bt horizon(s):
Hue—10YR or 7.5YR
Value—4 or 5
Chroma—3 to 6
Texture—silty clay loam or silt loam

2Bt or 2BC horizon(s):
Hue—2.5Y, 10YR, or 7.5YR
Value—4 to 6
Chroma—3 to 6
Texture—clay loam, loam, sandy loam, or sandy clay loam

2C horizon(s):
Hue—10YR or 7.5YR
Value—4 to 6
Chroma—3 to 6
Texture—stratified loamy sand to sandy loam

134C2—Camden silt loam, 5 to 10 percent slopes, eroded

Setting

Landform: Outwash plains and stream terraces
Position on the landform: Shoulders and backslopes (fig. 5)

Map Unit Composition

Camden and similar soils: 100 percent

Components of Minor Extent

Similar soils:
- Soils that have more clay in the surface layer
- Soils that have less sand in the lower part of the subsoil
- Soils that have more sand in the surface layer and in the upper part of the subsoil
- Soils that have slopes of less than 5 percent
- Soils that have more sand in the underlying material

Properties and Qualities of the Camden Soil

Parent material: Loess over stratified loamy outwash

Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

134C3—Camden silty clay loam, 5 to 10 percent slopes, severely eroded

Setting

Landform: Outwash plains and stream terraces
Position on the landform: Shoulders and backslopes

Map Unit Composition

Camden and similar soils: 100 percent

Components of Minor Extent

Similar soils:
- Soils that have less clay in the surface layer
- Soils that have less sand in the lower part of the subsoil
- Soils that have more sand in the surface layer and in the upper part of the subsoil
- Soils that have more sand in the underlying material
- Soils that have slopes of less than 5 percent

Properties and Qualities of the Camden Soil

Parent material: Loess over stratified loamy outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.2 to 1.0 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete

Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 4e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

Catlin Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Oxyaquic Argiudolls
Taxadjunct features: The Catlin soils in map units 171C2 and 171D2 have a thinner dark surface layer than is defined as the range for the series. This difference, however, does not significantly affect the use and management of the soils. These soils are classified as fine-silty, mixed, superactive, mesic Mollic Oxyaquic Hapludalfs.

Typical Pedon

Catlin silt loam, 2 to 5 percent slopes; at an elevation of about 830 feet; Ogle County, Illinois; about 650 feet south and 571 feet east of the northwest corner of sec. 36, T. 42 N., R. 2 E.; USGS Fairdale, Illinois, topographic quadrangle; lat. 42 degrees 04 minutes 38 seconds N. and long. 88 degrees 57 minutes 17 seconds W.; UTM Zone 16, 338307E 4660199N, NAD 83:

Ap—0 to 11 inches; very dark brown (10YR 2/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine granular structure; friable; neutral; abrupt smooth boundary.

BA—11 to 18 inches; brown (10YR 4/3) silt loam; weak medium prismatic structure parting to moderate fine and medium subangular blocky; friable; few faint dark brown (10YR 3/3) organic coatings on faces of peds; common distinct light gray (10YR 7/1) (dry) clay depletions on faces of peds; moderately acid; clear smooth boundary.

Bt1—18 to 23 inches; brown (10YR 5/3) silty clay loam; weak medium prismatic structure parting to strong fine and medium subangular blocky; friable; many faint brown (10YR 4/3) clay films on faces of peds; few distinct light gray (10YR 7/1) (dry) clay depletions on faces of peds; strongly acid; clear smooth boundary.

Bt2—23 to 31 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium prismatic structure parting to strong medium angular and subangular blocky; firm; few distinct very dark brown (10YR 2/2) organo-clay films in root channels; many faint brown (10YR 4/3) clay films on faces of peds; few distinct light gray (10YR 7/1) (dry) silt coatings on faces of peds; few black (N 2.5/) weakly cemented manganese concretions throughout; few fine faint brown (7.5YR 4/4) masses of iron and manganese accumulation and common fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; moderately acid; clear smooth boundary.

Bt3—31 to 36 inches; yellowish brown (10YR 5/4) silty clay loam; strong medium prismatic structure parting to strong medium angular and subangular blocky; firm; common prominent grayish brown (2.5Y 5/2) clay films on faces of peds; few distinct light gray (10YR 7/1) (dry) silt coatings on faces of peds; few black (N 2.5/) weakly cemented manganese concretions throughout; few fine faint brown (7.5YR 4/4) masses of iron and manganese accumulation and distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; slightly acid; clear smooth boundary.

Bt4—36 to 44 inches; yellowish brown (10YR 5/4), brown (7.5YR 4/4), and light brownish gray (2.5Y 6/2) silty clay loam; weak coarse prismatic structure parting to moderate coarse subangular blocky; firm; many faint grayish brown (2.5Y 5/2) clay films on faces of peds; common distinct light gray (10YR 7/1) (dry) silt coatings on faces of peds; few distinct very dark brown (10YR 2/2) organo-clay films in root channels; slightly acid; abrupt smooth boundary.

2Bt5—44 to 49 inches; dark yellowish brown (10YR 4/4) clay loam; weak coarse subangular blocky structure; firm; few faint brown (10YR 5/3) clay films, mainly on vertical faces of peds; few distinct very dark brown (10YR 2/2) organo-clay films in root channels; slightly alkaline; clear smooth boundary.

2C—49 to 60 inches; yellowish brown (10YR 5/4) loam; massive; firm; common fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; about 5 percent gravel; strongly effervescent; moderately alkaline.

Range in Characteristics

Depth to the base of the diagnostic horizon: 45 to 65 inches
Thickness of the loess: 40 to 60 inches
Depth to carbonates: 40 to 60 inches
Thickness of the mollic epipedon or dark surface soil: 7 to 19 inches

Ap, A, or AB horizon(s):
Hue—10YR
Value—2 or 3
Chroma—1 to 3
Texture—silt loam

BA or Bt horizon(s):
Hue—10YR or 2.5Y
Value—3 to 5
Chroma—3 or 4
Texture—silty clay loam or silt loam

2Bt, 2BC, or 2C horizon(s):
Hue—2.5Y, 10YR, or 7.5YR
Value—4 or 5
Chroma—2 to 8
Texture—clay loam, loam, or silt loam
Content of rock fragments—0 to 10 percent

171B—Catlin silt loam, 2 to 5 percent slopes

Setting

Landform: Ground moraines and end moraines
Position on the landform: Summits and shoulders (fig. 4)

Map Unit Composition

Catlin and similar soils: 95 percent
Dissimilar soils: 5 percent

Components of Minor Extent

Similar soils:
- Soils that have more than 15 percent sand at a depth of less than 40 inches
- Soils that have less than 15 percent sand at a depth of more than 60 inches
- Soils that have slopes of less than 2 percent

- Soils that have a seasonal high water table at a depth of more than 3.5 feet
- Soils that have a thinner dark surface layer

Dissimilar soils:

- The well drained Wyanet soils in the more sloping positions

Properties and Qualities of the Catlin Soil

Parent material: Loess over till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.5 to 4.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table: 2.0 to 3.5 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

171C2—Catlin silt loam, 5 to 10 percent slopes, eroded

Setting

Landform: Ground moraines and end moraines
Position on the landform: Summits and backslopes (fig. 4)

Map Unit Composition

Catlin and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:

- Soils that have more than 15 percent sand at a depth of less than 40 inches
- Soils that have less than 15 percent sand at a depth of more than 60 inches
- Soils in which the surface layer contains more clay and is lighter in color
- Soils that have a thicker dark surface soil
- Soils that have slopes of less than 5 percent

Dissimilar soils:

- The well drained Wyanet soils in positions similar to those of the Catlin soil

Properties and Qualities of the Catlin Soil

Parent material: Loess over till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately slow

Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.5 to 3.5 percent
Shrink-swell potential: Moderate
Perched seasonal high water table: 2.0 to 3.5 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

171D2—Catlin silt loam, 10 to 18 percent slopes, eroded

Setting

Landform: Ground moraines and end moraines
Position on the landform: Backslopes

Map Unit Composition

Catlin and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have more than 15 percent sand at a depth of less than 40 inches
- Soils in which the surface layer contains more clay and is lighter in color

Dissimilar soils:
- The well drained Wyanet soils in positions similar to those of the Catlin soil

Properties and Qualities of the Catlin Soil

Parent material: Loess over till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.5 to 3.5 percent
Shrink-swell potential: Moderate
Perched seasonal high water table: 2.0 to 3.5 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

Clare Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Oxyaquic Argiudolls

Typical Pedon

Clare silt loam, 0 to 2 percent slopes; at an elevation of about 731 feet; McLean County, Illinois; 1,560 feet north and 2,070 feet west of the southeast corner of sec. 26, T. 25 N., R. 4 E.; USGS Cooksville, Illinois, topographic quadrangle; lat. 40 degrees 35 minutes 34 seconds N. and long. 88 degrees 42 minutes 53 seconds W.; UTM Zone 16, 354916E 4494964N, NAD 83:

Ap—0 to 11 inches; very dark grayish brown (10YR 3/2) silt loam, brown (10YR 5/3) dry; moderate fine granular structure; friable; many very fine roots; common faint very dark gray (10YR 3/1) organic coatings on faces of peds; neutral; clear smooth boundary.

BA—11 to 16 inches; brown (10YR 4/3) silt loam; weak very fine subangular blocky structure parting to moderate fine granular; friable; common very fine roots; many distinct very dark gray (10YR 3/1) organic coatings on faces of peds; few fine prominent masses of iron and manganese accumulation throughout; slightly acid; clear smooth boundary.

Bt1—16 to 24 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine and medium subangular blocky structure; friable; common very fine roots; many distinct brown (10YR 4/3) clay films on faces of peds; few fine distinct black (10YR 2/1) masses of manganese accumulation throughout; slightly acid; clear smooth boundary.

Bt2—24 to 30 inches; dark yellowish brown (10YR 4/4) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; friable; common very fine roots; common distinct brown (10YR 4/3) clay films on faces of peds; few fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; slightly acid; clear smooth boundary.

2Bt3—30 to 44 inches; dark yellowish brown (10YR 4/4) clay loam; weak medium and coarse subangular blocky structure; friable; few very fine roots; common distinct brown (10YR 4/3) clay films on faces of peds; few fine distinct yellowish brown (10YR 5/6) masses of iron accumulation and few fine distinct grayish brown (10YR 5/2) iron depletions in the matrix; common medium distinct black (10YR 2/1) masses of manganese accumulation throughout; 5 percent gravel; neutral; gradual smooth boundary.

2C—44 to 60 inches; light olive brown (2.5Y 5/4) silt loam with strata of loam; massive; friable; common medium distinct light brownish gray (10YR 6/2) iron depletions in the matrix; common medium prominent black (10YR 2/1) masses of manganese accumulation throughout; 5 percent gravel; slightly effervescent; slightly alkaline.

Range in Characteristics

Depth to the base of the diagnostic horizon: 40 to 70 inches
Thickness of the loess: 20 to 40 inches
Thickness of the mollic epipedon: 10 to 19 inches
Depth to carbonates: More than 40 inches

Ap or A horizon(s):
Hue—10YR
Value—2 or 3
Chroma—1 to 3
Texture—silt loam

Bt horizon(s):
Hue—7.5YR or 10YR
Value—3 to 6
Chroma—3 to 6
Texture—silty clay loam or silt loam

2Bt horizon(s):
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—3 to 6
Texture—clay loam
Content of rock fragments—0 to 15 percent

2C horizon(s):
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—3 to 6
Texture—stratified silt loam, loam, gravelly silt loam, or gravelly loam
Content of rock fragments—0 to 20 percent

663A—Clare silt loam, 0 to 2 percent slopes

Setting

Landform: Outwash plains
Position on the landform: Summits

Map Unit Composition

Clare and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have a seasonal high water table at a depth of less than 2 feet
- Soils that have less than 15 percent sand at a depth of more than 40 inches

Dissimilar soils:
- The well drained Proctor soils in the slightly higher positions
- The poorly drained Drummer soils in swales

Properties and Qualities of the Clare Soil

Parent material: Loess over outwash
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.5 to 4.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: 2.0 to 3.5 feet below the surface

Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Clarksdale Series

Taxonomic classification: Fine, smectitic, mesic Udollic Endoaqualfs

Typical Pedon

Clarksdale silt loam, 0 to 2 percent slopes; at an elevation of 650 feet; Adams County, Illinois; 800 feet south and 550 feet east of the northwest corner of sec. 16, T. 2 N., R. 7 W.; USGS Loraine, Illinois, topographic quadrangle; lat. 40 degrees 09 minutes 58 seconds N. and long. 91 degrees 13 minutes 17 seconds W.; UTM Zone 15, 651445E 4447716N, NAD 83:

Ap—0 to 8 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate medium granular structure; friable; common fine roots throughout; neutral; abrupt smooth boundary.

E—8 to 12 inches; dark grayish brown (10YR 4/2) silt loam; moderate medium platy structure parting to weak very fine subangular blocky; friable; common very fine and fine roots throughout; many distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds and in pores and many fine distinct light gray (10YR 7/1 and 7/2) clay depletions between peds; few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation lining root channels and pores and few fine faint black (2.5Y 2.5/1) masses of manganese accumulation throughout; neutral; clear smooth boundary.

BE—12 to 16 inches; grayish brown (10YR 5/2) silt loam; moderate fine subangular blocky structure; friable; few fine roots throughout; common distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds and in pores and common fine faint light gray (10YR 7/1) clay depletions between peds; few fine distinct black (2.5Y 2.5/1) masses of manganese accumulation and common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation throughout; moderately acid; clear smooth boundary.

Bt1—16 to 23 inches; brown (10YR 5/3) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; few very fine and fine roots throughout; many faint dark grayish brown (10YR 4/2) clay films on faces of peds and many distinct very dark gray (10YR 3/1) organo-clay films on faces of peds and in pores; common fine distinct black (2.5Y 2.5/1) masses of manganese accumulation and common fine distinct yellowish brown (10YR 5/6) masses of iron accumulation throughout; moderately acid; clear smooth boundary.

Bt2—23 to 31 inches; brown (10YR 5/3) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; few fine roots throughout; many faint grayish brown (10YR 5/2) clay films on faces of peds and many distinct very dark gray (10YR 3/1) organo-clay films on faces of peds and in pores; many fine distinct yellowish brown (10YR 5/6) and few fine prominent

strong brown (7.5YR 5/6) masses of iron accumulation and common fine distinct black (2.5Y 2.5/1) masses of manganese accumulation throughout; common fine faint light brownish gray (10YR 6/2) iron depletions throughout; moderately acid; gradual wavy boundary.

Btg1—31 to 47 inches; light brownish gray (2.5Y 6/2) silty clay loam; moderate coarse prismatic structure parting to moderate coarse subangular blocky; firm; few fine roots throughout; common prominent grayish brown (10YR 5/2) clay films on faces of peds and many prominent very dark gray (10YR 3/1) organo-clay films on faces of peds and in pores; many fine and medium prominent strong brown (7.5YR 5/6) masses of iron accumulation and few fine distinct black (2.5Y 2.5/1) masses of manganese accumulation throughout; few fine faint light brownish gray (10YR 6/2) iron depletions lining root channels and pores; neutral; gradual wavy boundary.

Btg2—47 to 57 inches; light brownish gray (2.5Y 6/2) silt loam; weak coarse prismatic structure; firm; few fine roots throughout; common prominent dark grayish brown (10YR 4/2) clay films in root channels and pores; many medium prominent strong brown (7.5YR 5/6) masses of iron accumulation and few fine distinct black (2.5Y 2.5/1) masses of manganese accumulation throughout; neutral; clear wavy boundary.

BCg—57 to 67 inches; light brownish gray (2.5Y 6/2) silt loam; weak coarse subangular blocky structure; firm; common prominent dark grayish brown (10YR 4/2) clay films in root channels and pores; common medium prominent strong brown (7.5YR 5/6) and yellowish red (5YR 5/6) masses of iron accumulation throughout; neutral; clear wavy boundary.

Cg—67 to 80 inches; light brownish gray (10YR 6/2) silt loam; massive; friable; few distinct dark grayish brown (10YR 4/2) clay films in root channels and pores; many medium prominent yellowish red (5YR 4/6) and common medium prominent strong brown (7.5YR 5/6) masses of iron accumulation throughout; neutral.

Range in Characteristics

Depth to carbonates: More than 40 inches
Depth to the base of the diagnostic horizon: 40 to 60 inches

Ap or A horizon(s):
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—silt loam

E or BE horizon(s):
Hue—10YR
Value—4 to 6
Chroma—1 or 2
Texture—silt loam

Bt or Btg horizon(s):
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 6
Texture—silty clay loam or silty clay; silt loam in the lower part in some pedons

C or Cg horizon(s):
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 6
Texture—silt loam

257A—Clarksdale silt loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Talfs (fig. 4)

Map Unit Composition

Clarksdale and similar soils: 95 percent
Dissimilar soils: 5 percent

Components of Minor Extent

Similar soils:
- Soils that have a darker subsurface layer
- Soils that have a lighter colored surface layer
- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that have slopes of more than 2 percent

Dissimilar soils:
- The well drained Rozetta soils on the slightly higher summits and shoulders
- The poorly drained Denny soils in depressions

Properties and Qualities of the Clarksdale Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 3 percent
Shrink-swell potential: High
Apparent seasonal high water table: 0.5 foot to 2.0 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Not hydric

Denny Series

Taxonomic classification: Fine, smectitic, mesic Mollic Albaqualfs

Typical Pedon

Denny silt loam, 0 to 2 percent slopes; at an elevation of 722 feet; McDonough County, Illinois; 225 feet north and 1,680 feet east of the southwest corner of sec. 25, T. 7 N., R. 3 W.; USGS Good Hope, Illinois, topographic quadrangle; lat. 40 degrees 33 minutes 31 seconds N. and long. 90 degrees 41 minutes 15 seconds W.; UTM Zone 15, 695797E 4492335N, NAD 83:

Ap—0 to 8 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; weak fine granular structure; very friable; few very fine roots throughout; moderately acid; abrupt smooth boundary.

Eg1—8 to 14 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; weak thick platy structure parting to weak thin platy; very friable; few very fine roots throughout; few distinct very dark gray (10YR 3/1) organic coatings in root channels; common faint grayish brown (10YR 5/2) clay depletions on faces of peds; common fine prominent dark yellowish brown (10YR 3/6) masses of iron and manganese accumulation throughout; few fine prominent black (N 2.5/) manganese concretions in the matrix; moderately acid; clear smooth boundary.

Eg2—14 to 21 inches; grayish brown (10YR 5/2) silt loam, light gray (10YR 7/2) dry; weak thick platy structure parting to moderate medium platy; friable; few very fine roots throughout; few distinct very dark gray (10YR 3/1) organic coatings in root channels; common fine faint dark brown (10YR 3/3) masses of iron and manganese accumulation throughout; common fine prominent black (N 2.5/) manganese concretions in the matrix; moderately acid; abrupt smooth boundary.

Btg1—21 to 29 inches; grayish brown (10YR 5/2) silty clay loam; moderate fine and medium subangular blocky structure; firm; few very fine roots between peds; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; few distinct very dark gray (10YR 3/1) organic coatings in root channels; many fine prominent dark yellowish brown (10YR 4/6) and common fine distinct yellowish brown (10YR 5/4) masses of iron and manganese accumulation throughout; common fine prominent black (N 2.5/) manganese concretions in the matrix; moderately acid; clear smooth boundary.

Btg2—29 to 38 inches; grayish brown (10YR 5/2) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; few very fine roots between peds; common faint dark grayish brown (10YR 4/2) clay films on faces of peds; few distinct very dark gray (10YR 3/1) organic coatings in root channels; many fine prominent dark yellowish brown (10YR 4/6) masses of iron and manganese and common fine prominent yellowish brown (10YR 5/8) masses of iron accumulation throughout; common fine prominent (N 2.5/) manganese concretions in the matrix; moderately acid; gradual smooth boundary.

Btg3—38 to 46 inches; light brownish gray (2.5Y 6/2) silty clay loam; moderate coarse prismatic structure parting to moderate coarse subangular blocky; firm; very few fine roots between peds; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; few distinct very dark gray (10YR 3/1) organic coatings in root channels; many fine prominent dark yellowish brown (10YR 4/6) masses of iron and manganese and common fine prominent strong brown (7.5YR 5/6) masses of iron accumulation throughout; common fine prominent black (N 2.5/) manganese concretions in the matrix; moderately acid; gradual wavy boundary.

Cg1—46 to 63 inches; light brownish gray (2.5Y 6/2) silty clay loam; massive; firm; few very fine roots along planes of weakness in the loess; very few distinct very dark gray (10YR 3/1) organic coatings in root channels; many fine prominent dark yellowish brown (10YR 4/6) masses of iron and manganese and common fine prominent strong brown (7.5YR 5/6) masses of iron accumulation throughout; few medium prominent black (N 2.5/) manganese concretions in the matrix; slightly acid; diffuse wavy boundary.

Cg2—63 to 80 inches; light brownish gray (2.5Y 6/2) silt loam; massive; firm; very few distinct very dark gray (10YR 3/1) organic coatings in root channels; many fine prominent dark yellowish brown (10YR 4/6) masses of iron and manganese and common fine prominent strong brown (7.5YR 5/6) masses of iron accumulation throughout; few medium prominent black (N 2.5/) manganese concretions in the matrix; slightly acid.

Range in Characteristics

Depth to the base of the diagnostic horizon: 40 to 65 inches

Ap or A horizon(s):
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—silt loam

Eg horizon(s):
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 or 2
Texture—silt loam

Btg horizon(s):
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 or 2
Texture—silty clay loam or silty clay

Cg horizon(s):
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 or 2
Texture—silt loam or silty clay loam

45A—Denny silt loam, 0 to 2 percent slopes

Setting

Landform: Depressions (fig. 5)

Map Unit Composition

Denny and similar soils: 95 percent
Dissimilar soils: 5 percent

Components of Minor Extent

Similar soils:
- Soils that have a thicker subsurface layer
- Soils that have a weakly expressed subsurface layer
- Soils that have a thicker dark surface soil and have less clay in the upper part of the subsoil
- Soils that have a dark surface layer and subsurface layer and have a seasonal high water table at a depth of more than 1 foot

Dissimilar soils:
- The well drained Osco soils on summits

Properties and Qualities of the Denny Soil

Parent material: Loess
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: 10 to 24 inches (abrupt textural change)
Available water capacity: About 11.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 3 percent

Shrink-swell potential: High
Apparent seasonal high water table: At the surface to 1 foot below the surface
Ponding: At the surface to 0.5 foot above the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Prime farmland where drained
Hydric soil status: Hydric

Drummer Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Endoaquolls

Typical Pedon

Drummer silty clay loam, 0 to 2 percent slopes; at an elevation of about 715 feet; Champaign County, Illinois; about 300 feet north and 1,600 feet east of the southwest corner of sec. 19, T. 19 N., R. 9 E.; USGS Urbana, Illinois, topographic quadrangle; lat. 40 degrees 05 minutes 04 seconds N. and long. 88 degrees 13 minutes 58 seconds W.; UTM Zone 16, 394895E 4437861N, NAD 83:

Ap—0 to 7 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; weak fine granular structure; firm; many fine roots; moderately acid; clear smooth boundary.

A—7 to 14 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate fine subangular blocky structure parting to weak fine granular; firm; many fine and medium roots; slightly acid; clear smooth boundary.

BA—14 to 19 inches; very dark gray (10YR 3/1) silty clay loam, gray (10YR 5/1) dry; moderate fine and medium subangular blocky structure; firm; many fine and medium roots; few fine faint very dark grayish brown (2.5Y 3/2) masses of iron and manganese accumulation in the matrix; slightly acid; gradual smooth boundary.

Bg—19 to 25 inches; dark gray (10YR 4/1) silty clay loam; moderate fine prismatic structure parting to moderate fine angular blocky; firm; many fine roots; common fine distinct yellowish brown (10YR 5/4) masses of iron and manganese accumulation and common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; many worm holes; neutral; gradual smooth boundary.

Btg1—25 to 32 inches; grayish brown (2.5Y 5/2) silty clay loam; weak fine and medium prismatic structure parting to moderate fine angular blocky; firm; many fine roots; common distinct dark gray (N 4/) clay films on faces of peds; many medium distinct yellowish brown (10YR 5/4) masses of iron and manganese accumulation in the matrix; neutral; gradual wavy boundary.

Btg2—32 to 41 inches; gray (N 5/) silty clay loam; weak medium prismatic structure parting to weak medium angular blocky; firm; few fine roots; few distinct dark gray (N 4/) clay films on faces of peds; many medium prominent yellowish brown (10YR 5/4) masses of iron and manganese accumulation in the matrix; neutral; clear wavy boundary.

2Btg3—41 to 47 inches; gray (N 5/) loam; weak coarse subangular blocky structure; friable; few fine roots; few distinct dark gray (10YR 4/1) clay films on faces of peds;

common medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; 4 percent fine gravel; neutral; abrupt wavy boundary.
2Cg—47 to 60 inches; dark gray (10YR 4/1), stratified loam and sandy loam; massive; friable; many medium prominent olive brown (2.5Y 4/4) masses of iron and manganese accumulation in the matrix; many medium distinct gray (N 5/) iron depletions in the matrix; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 24 inches
Thickness of the loess: 40 to 60 inches
Depth to carbonates: 40 to 65 inches
Depth to the base of the diagnostic horizon: 42 to 65 inches

Ap, A, or AB horizon(s):
Hue—10YR, 2.5Y, 5Y, or N
Value—2 or 3
Chroma—0 to 2
Texture—silty clay loam

BA, Bg, or Btg horizon(s):
Hue—10YR, 2.5Y, 5Y, or N
Value—3 to 6
Chroma—0 to 4
Texture—silty clay loam or silt loam

2Btg, 2Bg, or 2BCg horizon(s):
Hue—7.5YR, 10YR, 2.5Y, 5Y, or N
Value—4 to 6
Chroma—0 to 2
Texture—commonly loam or silt loam; stratified with sandy loam, clay loam, silty clay loam, sandy clay loam, or fine sandy loam in some pedons
Content of rock fragments—0 to 7 percent

2Cg or 2C horizon(s):
Hue—7.5YR, 10YR, 2.5Y, 5Y, or N
Value—4 to 7
Chroma—0 to 8
Texture—stratified loam and sandy loam
Content of rock fragments—0 to 15 percent

152A—Drummer silty clay loam, 0 to 2 percent slopes

Setting

Landform: Stream terraces and outwash plains
Position on the landform: Talfs and toeslopes (fig. 8)

Map Unit Composition

Drummer and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have a seasonal high water table at a depth of more than 1 foot
- Soils that have less sand in the underlying material
- Soils that have a thicker dark surface soil

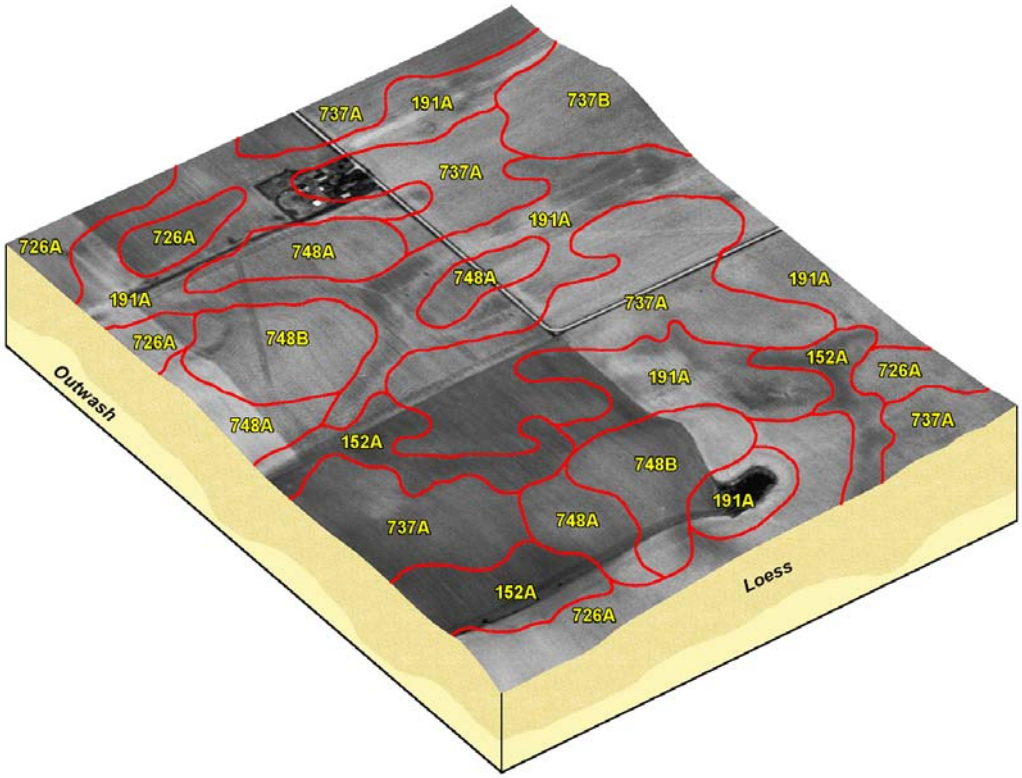


Figure 8.—Typical pattern of nearly level and gently sloping upland prairie soils that formed in loess and in the underlying outwash deposits.

- Soils that have more rock fragments in the underlying material
- Soils that have less clay in the surface layer

Dissimilar soils:

- The well drained Plano soils in the higher positions

Properties and Qualities of the Drummer Soil

Parent material: Loess over stratified loamy outwash
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 4.5 to 7.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: At the surface to 1 foot below the surface
Ponding: At the surface to 0.5 foot above the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Hydric

Edgington Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Argiaquic Argialbolls

Typical Pedon

Edgington silt loam, 0 to 2 percent slopes; at an elevation of about 900 feet; Carroll County, Illinois; 222 feet west and 45 feet north of the southeast corner of the northeast quarter of sec. 5, T. 25 N., R. 7 E.; USGS Shannon, Illinois, topographic quadrangle; lat. 42 degrees 11 minutes 30.1 seconds N. and long. 89 degrees 42 minutes 31 seconds W.; UTM Zone 16, 276336E 4674615N, NAD 83:

A1—0 to 16 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; moderate medium granular structure; friable; many roots; slightly acid; gradual smooth boundary.

A2—16 to 20 inches; very dark brown (10YR 2/2) and very dark grayish brown (10YR 3/2) silt loam, dark grayish brown (10YR 4/2) dry; moderate medium granular structure; friable; many roots; strongly acid; clear smooth boundary.

E—20 to 31 inches; dark grayish brown (10YR 4/2) and grayish brown (10YR 5/2) silt loam; weak medium platy structure parting to weak fine granular; friable; common roots; few fine distinct dark yellowish brown (10YR 4/4) masses of iron accumulation in the matrix; common fine distinct black (10YR 2/1) manganese nodules and concretions throughout; strongly acid; clear smooth boundary.

Btg1—31 to 35 inches; dark gray (5Y 4/1) silty clay loam; moderate fine subangular blocky structure; friable; few roots; few distinct dark gray (10YR 4/1) clay films on faces of peds; few fine prominent yellowish brown (10YR 5/4) masses of iron accumulation in the matrix; common fine prominent black (10YR 2/1) manganese nodules and concretions throughout; strongly acid; gradual smooth boundary.

Btg2—35 to 41 inches; gray (10YR 5/1) silty clay loam; weak medium prismatic structure parting to moderate fine and medium angular blocky; firm; few roots; common faint dark gray (10YR 4/1) clay films on faces of peds; few fine distinct dark yellowish brown (10YR 4/4) iron accumulations and few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine distinct black (10YR 2/1) manganese nodules and concretions throughout; moderately acid; gradual smooth boundary.

Btg3—41 to 49 inches; gray (10YR 5/1) silty clay loam; weak medium and coarse prismatic structure parting to strong medium angular blocky; firm; few roots; common faint dark gray (10YR 4/1) clay films and very dark gray (10YR 3/1) organo-clay films on faces of peds; common fine prominent brown (7.5YR 4/4) masses of iron accumulation and yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine distinct black (10YR 2/1) manganese nodules and concretions throughout; moderately acid; clear smooth boundary.

Btg4—49 to 55 inches; gray (10YR 5/1) and light brownish gray (10YR 6/2) silty clay loam; weak medium and coarse angular blocky structure; firm; few roots; common faint dark gray (10YR 4/1) clay films on faces of peds; many fine prominent brown (7.5YR 4/4) masses of iron accumulation and strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; common fine prominent black (10YR 2/1)

manganese nodules and concretions throughout; very dark gray (10YR 3/1) krotovina crossing the horizon; moderately acid; gradual smooth boundary.
Cg—55 to 60 inches; gray (10YR 5/1), yellowish brown (10YR 5/6), and light brownish gray (10YR 6/2) silt loam; massive; friable; few fine prominent dark brown (7.5YR 3/2) masses of iron and manganese accumulation in the matrix; slightly acid.

Range in Characteristics

Thickness of the mollic epipedon: 15 to 24 inches
Depth to the top of the argillic horizon: 24 to 36 inches

Ap or A horizon(s):
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—silt loam

E or Eg horizon(s):
Hue—10YR
Value—4 to 6
Chroma—1 or 2
Texture—silt loam

Btg horizon(s):
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 or 2
Texture—dominantly silty clay loam; silt loam in transitional subhorizons in the upper and lower parts

Cg horizon(s):
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 6
Texture—silt loam

272A—Edgington silt loam, 0 to 2 percent slopes

Setting

Landform: Depressions

Map Unit Composition

Edgington and similar soils: 100 percent

Components of Minor Extent

Similar soils:
- Soils that have more clay in the subsoil
- Soils that have more sand in the lower part of the subsoil and in the underlying material
- Soils that have a thinner dark surface layer
- Soils in which the surface soil is less than 24 inches thick
- Soils that have a seasonal high water table at a depth of more than 1 foot

Properties and Qualities of the Edgington Soil

Parent material: Loess
Drainage class: Poorly drained

Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 4.5 to 6.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: At the surface to 1 foot below the surface
Ponding: At the surface to 0.5 foot above the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Hydric

Elburn Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Aquic Argiudolls

Typical Pedon

Elburn silt loam, 0 to 2 percent slopes; at an elevation of about 617 feet; Christian County, Illinois; about 2,716 feet north and 1,300 feet west of the southeast corner of sec. 36, T. 14 N., R. 1 E.; USGS Assumption, Illinois, topographic quadrangle; lat. 39 degrees 37 minutes 05 seconds N. and long. 89 degrees 01 minute 46 seconds W.; UTM Zone 16, 325797E 4387329N, NAD 83:

Ap—0 to 6 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak fine granular structure; friable; few very fine roots; many distinct very dark gray (10YR 3/1) organic coatings on faces of peds; slightly acid; abrupt smooth boundary.

A—6 to 16 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine granular structure; friable; few very fine roots; many distinct very dark gray (10YR 3/1) organic coatings on faces of peds; neutral; clear smooth boundary.

Bt1—16 to 21 inches; brown (10YR 4/3) silty clay loam; moderate fine subangular blocky structure; friable; few very fine roots; many distinct very dark gray (10YR 3/1) organo-clay films and dark gray (10YR 4/1) clay films on faces of peds; few fine prominent yellowish brown (10YR 5/8) masses of iron accumulation and few fine faint brown (10YR 5/3) masses of iron and manganese accumulation in the matrix; few fine prominent manganese concretions throughout; slightly acid; clear smooth boundary.

Bt2—21 to 28 inches; brown (10YR 5/3) silty clay loam; moderate fine subangular blocky structure; firm; few very fine roots; common distinct very dark gray (10YR 3/1) organo-clay films and common faint dark grayish brown (10YR 4/2) clay films on faces of peds; few fine faint grayish brown (10YR 5/2) iron depletions and few fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few fine prominent manganese concretions throughout; neutral; clear smooth boundary.

Bt3—28 to 36 inches; brown (10YR 5/3) silty clay loam; moderate medium subangular blocky structure; firm; few very fine roots; common distinct very dark gray (10YR 3/1) organo-clay films and dark gray (10YR 4/1) clay films on faces of peds; common fine faint grayish brown (10YR 5/2) iron depletions and common fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few fine prominent manganese concretions throughout; neutral; clear smooth boundary.

Bt4—36 to 43 inches; light olive brown (2.5Y 5/4) silty clay loam; moderate medium subangular blocky structure; friable; few very fine roots; few prominent very dark gray (10YR 3/1) organo-clay films and few distinct brown (10YR 5/3) clay films on faces of peds; common medium distinct yellowish brown (10YR 5/6) and brownish yellow (10YR 6/6) masses of iron accumulation in the matrix; few fine prominent manganese concretions throughout; slightly alkaline; clear smooth boundary.

Btg—43 to 49 inches; grayish brown (2.5Y 5/2) silty clay loam; weak coarse subangular blocky structure; friable; few very fine roots; few distinct very dark gray (10YR 3/1) organo-clay films and dark grayish brown (10YR 4/2) clay films on faces of peds; many medium prominent brownish yellow (10YR 6/8) and few fine prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; few fine prominent manganese concretions throughout; slightly alkaline; clear smooth boundary.

2BCtg—49 to 58 inches; grayish brown (2.5Y 5/2), stratified silt loam, loam, and sandy loam; weak coarse subangular blocky structure; friable; few very fine roots; few distinct very dark grayish brown (10YR 3/2) organo-clay films and dark grayish brown (10YR 4/2) clay films lining pores; common medium prominent brownish yellow (10YR 6/8) and few fine prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; few very fine manganese concretions throughout; slightly alkaline; clear smooth boundary.

2Cg—58 to 62 inches; grayish brown (2.5Y 5/2), stratified sandy loam and loamy sand; massive; very friable; common medium prominent yellowish brown (10YR 5/8) and brownish yellow (10YR 6/8) masses of iron accumulation in the matrix; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 19 inches

Depth to the base of the diagnostic horizon: 40 to 70 inches

Depth to carbonates: Typically more than 60 inches; ranges to 40 inches in some pedons

Other features: The Elburn soil in map unit 726A has a sandy substratum within a depth of 60 inches. The characteristics of this layer are the same as those described for the 2C or 2Cg horizon(s) below.

Ap or A horizon(s):
- Hue—10YR
- Value—2 or 3
- Chroma—1 or 2
- Texture—silt loam

Bt or Btg horizon(s):
- Hue—10YR, 2.5Y, or 5Y
- Value—4 or 5
- Chroma—2 to 4
- Texture—silty clay loam or silt loam

2Btg, 2Bt, 2Bg, 2BC, 2BCtg, or 2BCg horizon(s):
- Hue—7.5YR, 10YR, 2.5Y, or 5Y
- Value—4 to 6

Chroma—2 to 8
Texture—stratified sandy loam, loam, or silt loam; thin strata of clay loam or silty clay loam in some pedons
Content of rock fragments—0 to 15 percent

2C or 2Cg horizon(s):
Hue—7.5YR, 10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—2 to 8
Texture—stratified sandy loam, loam, loamy sand, or silt loam; stratified sand and loamy sand in the sandy substratum phase
Content of rock fragments—0 to 15 percent

198A—Elburn silt loam, 0 to 2 percent slopes

Setting

Landform: Stream terraces and outwash plains
Position on the landform: Talfs

Map Unit Composition

Elburn and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have less clay in the subsoil
- Soils that have more than 10 percent sand at a depth of less than 40 inches
- Soils that have less sand in the lower part of the subsoil and in the underlying material
- Soils that have more sand in the underlying material
- Soils that have slopes of more than 2 percent

Dissimilar soils:
- The well drained Plano soils in the slightly higher positions
- The poorly drained Drummer soils in swales

Properties and Qualities of the Elburn Soil

Parent material: Loess over outwash
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.5 to 5.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: 1 to 2 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1

Prime farmland category: Prime farmland
Hydric soil status: Not hydric

726A—Elburn silt loam, sandy substratum, 0 to 2 percent slopes

Setting

Landform: Outwash plains
Position on the landform: Talfs (fig. 8)

Map Unit Composition

Elburn and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have sandy material at a depth of more than 60 inches

Dissimilar soils:
- The well drained Plano and Tama soils in the slightly higher positions
- The poorly drained Sable soils in depressions

Properties and Qualities of the Elburn Soil

Parent material: Loess over sandy outwash
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: 40 to 60 inches (strongly contrasting textural stratification)
Available water capacity: About 10.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.5 to 5.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: 1 to 2 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

7198A—Elburn silt loam, 0 to 2 percent slopes, rarely flooded

Setting

Landform: Flood-plain steps (fig. 5)

Map Unit Composition

Elburn and similar soils: 95 percent
Dissimilar soils: 5 percent

Components of Minor Extent

Similar soils:
- Soils that have less than 10 percent sand in the underlying material
- Soils that have more than 10 percent sand at a depth of less than 40 inches
- Soils that have less clay in the subsoil

Dissimilar soils:
- The well drained Plano soils in the slightly higher positions
- The somewhat poorly drained Lawson soils that are subject to frequent flooding; in the lower positions
- The poorly drained Sawmill soils in swales

Properties and Qualities of the Elburn Soil

Parent material: Loess over loamy and sandy outwash
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.5 to 5.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: 1 to 2 feet below the surface
Frequency and most likely period of flooding: Rare, November to June
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Elkhart Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Argiudolls
Taxadjunct features: The Elkhart soils in this survey area have a thinner dark surface layer than is defined as the range for the series. This difference, however, does not significantly affect the use and management of the soils. These soils are classified as fine-silty, mixed, superactive, mesic Mollic Hapludalfs.

Typical Pedon

Elkhart silt loam, 10 to 18 percent slopes; at an elevation of about 810 feet; Mercer County, Illinois; approximately 80 feet east and 1,000 feet south of the northwest corner of sec. 6, T. 15 N., R. 2 W.; USGS Reynolds, Illinois, topographic quadrangle; lat. 41 degrees 19 minutes 34 seconds N. and long. 90 degrees 40 minutes 03 seconds W.; UTM Zone 15, 695204E 4577584N, NAD 83:

Ap—0 to 10 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate medium granular structure; friable; moderately acid; abrupt smooth boundary.

Bt1—10 to 14 inches; brown (10YR 4/3) silty clay loam; some mixing of very dark grayish brown (10YR 3/2) organic coatings; weak medium subangular blocky

structure; friable; common distinct brown (10YR 4/3) clay films on faces of peds; slightly acid; clear smooth boundary.

Bt2—14 to 24 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium and coarse subangular blocky structure; friable; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; few medium distinct strong brown (7.5YR 5/6) masses of iron accumulation in the lower part; slightly acid; clear smooth boundary.

BCt—24 to 29 inches; yellowish brown (10YR 5/4) silt loam; moderate medium subangular blocky structure; friable; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; common medium distinct strong brown (7.5YR 5/6) masses of iron accumulation and common medium distinct grayish brown (2.5Y 5/2) iron depletions; slightly effervescent; slightly alkaline; clear wavy boundary.

C—29 to 60 inches; light olive gray (5Y 6/2) silt loam; massive; friable; common coarse prominent strong brown (7.5YR 5/6) masses of iron accumulation; strongly effervescent; moderately alkaline.

Range in Characteristics:

Thickness of the dark surface layer: 7 to 9 inches
Depth to the base of the diagnostic horizon: 20 to 40 inches
Depth to carbonates: 20 to 40 inches

Ap or AB horizon(s):
Hue—10YR
Value—2 or 3
Chroma—1 to 3
Texture—silt loam

BA or Bt horizon(s):
Hue—10YR or 7.5YR
Value—3 to 5
Chroma—3 to 6
Texture—silty clay loam or silt loam

BC or BCt horizon(s):
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—3 to 6
Texture—silt loam or silty clay loam

C horizon(s):
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 6
Texture—silt loam

567C2—Elkhart silt loam, 5 to 10 percent slopes, eroded

Setting

Landform: Ground moraines
Position on the landform: Backslopes

Map Unit Composition

Elkhart and similar soils: 95 percent
Dissimilar soils: 5 percent

Components of Minor Extent

Similar soils:
- Soils in which the surface layer has more clay and is lighter in color
- Soils that have a thicker dark surface soil
- Soils that have carbonates at a depth of more than 40 inches
- Soils that have a seasonal high water table within a depth of 6 feet

Dissimilar soils:
- The well drained Bold soils in positions similar to those of the Elkhart soil

Properties and Qualities of the Elkhart Soil

Parent material: Loess
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 3 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

Fayette Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Hapludalfs

Typical Pedon

Fayette silt loam, 10 to 18 percent slopes, eroded; at an elevation of 685 feet; Warren County, Illinois; 2,100 feet north and 1,700 feet west of the southeast corner of sec. 31, T. 12 N., R. 3 W.; USGS Rozetta, Illinois, topographic quadrangle; lat. 40 degrees 59 minutes 13 seconds N. and long. 90 degrees 46 minutes 18 seconds W.; UTM Zone 15, 687438E 4539703N, NAD 83:

Ap—0 to 5 inches; mixed dark grayish brown (10YR 4/2) and yellowish brown (10YR 5/4) silt loam, light brownish gray (10YR 6/2) dry; moderate medium granular structure; friable; common fine roots throughout; moderately acid; clear smooth boundary.

EB—5 to 9 inches; mixed brown (10YR 5/3) and yellowish brown (10YR 5/4) silt loam; weak medium platy structure parting to moderate fine subangular blocky; friable; common fine roots between peds; few distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; moderately acid; clear smooth boundary.

Bt1—9 to 13 inches; dark yellowish brown (10YR 4/4) silt loam; moderate fine and medium subangular blocky structure; friable; few fine roots between peds;

common distinct brown (10YR 4/3) clay films on faces of peds; moderately acid; clear smooth boundary.

Bt2—13 to 27 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium subangular blocky structure; friable; few fine roots between peds; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; moderately acid; gradual smooth boundary.

Bt3—27 to 38 inches; yellowish brown (10YR 5/4) silty clay loam; weak coarse prismatic structure parting to moderate medium subangular blocky; friable; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; common distinct light gray (10YR 7/2) (dry) silt coatings on faces of peds; few distinct dark brown (7.5YR 3/2) masses of iron and manganese accumulation on faces of peds; moderately acid; gradual wavy boundary.

BCt—38 to 55 inches; yellowish brown (10YR 5/4) silt loam; moderate medium and coarse subangular blocky structure; friable; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; common distinct light gray (10YR 7/2) (dry) silt coatings on faces of peds; few distinct dark brown (7.5YR 3/2) masses of iron and manganese accumulation on faces of peds; moderately acid; clear wavy boundary.

C—55 to 60 inches; yellowish brown (10YR 5/4) silt loam; massive; friable; few distinct dark brown (7.5YR 3/2) iron and manganese concretions in the matrix; moderately acid.

Range in Characteristics

Depth to the base of the diagnostic horizon: 36 to 70 inches
Depth to carbonates (where present): More than 40 inches

Ap or A horizon(s):
Hue—10YR
Value—2 to 4; ranges to 5 with mixing of subsurface materials
Chroma—1 to 3; ranges to 4 with mixing of subsurface materials
Texture—silt loam

E, EB, or BE horizon(s) (where present):
Hue—10YR
Value—4 or 5
Chroma—1 to 4
Texture—silt loam

Bt horizon(s):
Hue—10YR
Value—4 or 5
Chroma—3 to 6
Texture—silty clay loam or silt loam

BCt, BC, or C horizon(s):
Hue—10YR
Value—4 or 5
Chroma—4 to 6
Texture—silt loam

280C2—Fayette silt loam, 5 to 10 percent slopes, eroded

Setting

Landform: Ground moraines
Position on the landform: Shoulders and backslopes

Map Unit Composition

Fayette and similar soils: 100 percent

Components of Minor Extent

Similar soils:
- Soils that have more clay in the surface layer
- Soils that have a seasonal high water table within a depth of 6 feet
- Soils that have slopes of less than 5 percent
- Soils that have slopes of more than 10 percent
- Soils that have more sand in the lower part of the subsoil and in the underlying material

Properties and Qualities of the Fayette Soil

Parent material: Loess
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 2 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

280D2—Fayette silt loam, 10 to 18 percent slopes, eroded

Setting

Landform: Ground moraines and loess hills
Position on the landform: Shoulders and backslopes

Map Unit Composition

Fayette and similar soils: 100 percent

Components of Minor Extent

Similar soils:
- Soils that have more clay in the surface layer
- Soils that have carbonates at a depth of less than 40 inches
- Soils that have a seasonal high water table within a depth of 6 feet
- Soils that have slopes of less than 10 percent
- Soils that have more sand in the lower part of the subsoil and in the underlying material

Properties and Qualities of the Fayette Soil

Parent material: Loess
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 2 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

Harpster Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Calciaquolls

Typical Pedon

Harpster silty clay loam, 0 to 2 percent slopes; at an elevation of about 740 feet; Ford County, Illinois; about 855 feet south and 70 feet west of the northeast corner of sec. 20, T. 23 N., R. 7 E.; USGS Gibson City West, Illinois, topographic quadrangle; lat. 40 degrees 26 minutes 24 seconds N. and long. 88 degrees 25 minutes 23 seconds W.; UTM Zone 16, 379305E 4477570N, NAD 83:

Apk—0 to 9 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; weak fine granular structure; friable; common very fine roots; many snail shells; strongly effervescent (20 percent calcium carbonate); moderately alkaline; abrupt smooth boundary.

Ak—9 to 18 inches; very dark gray (10YR 3/1) silty clay loam, gray (10YR 5/1) dry; weak fine and medium granular structure; firm; common very fine roots; many snail shells; strongly effervescent (18 percent calcium carbonate); moderately alkaline; clear smooth boundary.

Bg1—18 to 25 inches; dark grayish brown (2.5Y 4/2) silty clay loam; weak fine and medium angular blocky structure; firm; common very fine roots; many distinct very dark gray (10YR 3/1) organic coatings on faces of peds; common fine distinct light olive brown (2.5Y 5/4) masses of iron accumulation in the matrix; few snail shells; slightly effervescent (7 percent calcium carbonate); moderately alkaline; gradual smooth boundary.

Bg2—25 to 31 inches; dark gray (5Y 4/1) silty clay loam; moderate medium prismatic structure parting to moderate fine and medium angular blocky; firm; few very fine roots; many distinct very dark gray (10YR 3/1) organic coatings on faces of peds; few fine prominent dark yellowish brown (10YR 4/4) and few fine distinct olive (5Y 4/4) masses of iron accumulation in the matrix; few snail shells; slightly

effervescent (5 percent calcium carbonate); slightly alkaline; gradual smooth boundary.
Bg3—31 to 36 inches; dark gray (5Y 4/1) silty clay loam; weak coarse prismatic structure parting to weak medium angular blocky; firm; few very fine roots; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds; common medium distinct olive (5Y 4/4) masses of iron accumulation and few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; 2 percent gravel; slightly effervescent (2 percent calcium carbonate); slightly alkaline; gradual smooth boundary.
Bg4—36 to 41 inches; 40 percent olive brown (2.5Y 4/4), 35 percent olive yellow (2.5Y 6/6), and 25 percent gray (5Y 5/1) silty clay loam; weak coarse angular blocky structure; firm; few very fine roots; 2 percent gravel; slightly effervescent (2 percent calcium carbonate); slightly alkaline; gradual smooth boundary.
Cg1—41 to 56 inches; 55 percent gray (5Y 5/1), 40 percent light olive brown (2.5Y 5/6), and 5 percent dark yellowish brown (10YR 4/4) silt loam; massive; firm; 1 percent gravel; strongly effervescent (16 percent calcium carbonate); moderately alkaline; clear smooth boundary.
2Cg2—56 to 60 inches; gray (10YR 5/1) loam; massive; friable; 5 percent gravel; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 24 inches
Thickness of the loess or silty sediments: More than 36 inches
Depth to the base of the diagnostic horizon: 22 to 46 inches
Depth to calcic horizon: 0 to 16 inches

Apk or Ak horizon(s):
Hue—10YR, 2.5Y, 5Y, or N
Value—2 or 3
Chroma—0 or 1
Texture—silty clay loam

Bg horizon(s):
Hue—10YR, 2.5Y, 5Y, or N
Value—3 to 6
Chroma—0 to 2
Texture—dominantly silty clay loam; silt loam, clay loam, or loam in the lower part in some pedons

Cg or 2Cg horizon(s):
Hue—7.5YR, 10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 8
Texture—silt loam or loam

67A—Harpster silty clay loam, 0 to 2 percent slopes

Setting

Landform: Outwash plains and stream terraces
Position on the landform: Talfs

Map Unit Composition

Harpster and similar soils: 95 percent
Dissimilar soils: 5 percent

Components of Minor Extent

Similar soils:
- Soils that have less sand in the underlying material

Dissimilar soils:
- The poorly drained, noncalcareous Drummer soils in positions similar to those of the Harpster soil
- The somewhat poorly drained Elburn and Lawndale soils in the slightly higher positions

Properties and Qualities of the Harpster Soil

Parent material: Calcareous, fine-silty colluvium over drift
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.5 to 6.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: At the surface to 1 foot below the surface
Ponding: At the surface to 0.5 foot above the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Hydric

Hartsburg Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Endoaquolls

Typical Pedon

Hartsburg silty clay loam, 0 to 2 percent slopes; at an elevation of 562 feet; Logan County, Illinois; 660 feet west and 40 feet north of the southeast corner of sec. 23, T. 21 N., R. 4 W.; USGS New Holland, Illinois, topographic quadrangle; lat. 40 degrees 14 minutes 57 seconds N. and long. 89 degrees 30 minutes 30 seconds W.; UTM Zone 16, 286650E 4458436N, NAD 83:

Ap—0 to 7 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate medium granular structure; friable; slightly acid; abrupt smooth boundary.

A1—7 to 12 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate medium granular structure; friable; few very fine roots; slightly acid; clear smooth boundary.

A2—12 to 17 inches; very dark gray (10YR 3/1) silty clay loam, gray (10YR 5/1) dry; moderate medium granular structure; firm; few very fine roots; few fine rounded black (7.5YR 2.5/1) weakly cemented manganese concretions with diffuse boundaries along root channels and pores; few fine faint dark grayish brown (2.5Y 4/2) iron depletions in the matrix; neutral; clear smooth boundary.

Bg—17 to 21 inches; dark grayish brown (2.5Y 4/2) silty clay loam; weak fine and medium subangular blocky structure; firm; few very fine roots; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds; common very dark gray (10YR 3/1) krotovinas; few fine rounded black (7.5YR 2.5/1) weakly cemented manganese concretions with diffuse boundaries lining root channels and pores; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; neutral; clear smooth boundary.

Bkg—21 to 30 inches; gray (5Y 5/1) silty clay loam; moderate medium subangular blocky structure; firm; few very fine roots; common distinct dark grayish brown (10YR 4/2) and grayish brown (2.5Y 5/2) pressure faces on faces of peds; common very dark gray (10YR 3/1) krotovinas; few fine rounded black (7.5YR 2.5/1) weakly cemented manganese concretions with diffuse boundaries lining root channels and pores; few fine and medium rounded white (10YR 8/1) weakly cemented calcium carbonate concretions throughout; common medium prominent yellowish brown (10YR 5/8) and strong brown (7.5YR 5/8) masses of iron accumulation in the matrix; slightly effervescent; slightly alkaline; abrupt wavy boundary.

BCkg—30 to 34 inches; light brownish gray (2.5Y 6/2) silty clay loam; weak coarse subangular blocky structure; firm; many distinct gray (N 5/) and grayish brown (2.5Y 5/2) linings in pores and root channels; common very dark gray (10YR 3/1) krotovinas; few fine rounded black (7.5YR 2.5/1) weakly cemented manganese concretions with diffuse boundaries lining pores; many medium and coarse rounded white (10YR 8/1) weakly cemented calcium carbonate concretions throughout; many medium prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; violently effervescent among concretions, slightly effervescent in the matrix; slightly alkaline; clear wavy boundary.

Cg—34 to 60 inches; light brownish gray (2.5Y 6/2) silt loam; massive; friable; common very dark gray (10YR 3/1) krotovinas; few medium rounded white (10YR 8/1) weakly cemented calcium carbonate concretions throughout; many medium prominent strong brown (7.5YR 5/8) masses of iron accumulation with diffuse boundaries lining pores; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches
Depth to carbonates: 15 to 35 inches
Depth to the base of the diagnostic horizon: 24 to 50 inches

Ap, A, or AB horizon(s):
Hue—10YR or N
Value—2 or 3
Chroma—0 to 2
Texture—silty clay loam

BA, Bg, Bkg, Btg, BCk, BCkg, or BCg horizon(s):
Hue—10YR, 2.5Y, or 5Y
Value—3 to 6
Chroma—1 or 2
Texture—silty clay loam or silt loam

Cg horizon:
Hue—10YR, 2.5Y, or 5Y
Value—5 or 6
Chroma—1 or 2
Texture—silt loam

244A—Hartsburg silty clay loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Talfs (fig. 7)

Map Unit Composition

Hartsburg and similar soils: 100 percent

Components of Minor Extent

Similar soils:
- Soils that have carbonates at a depth of more than 35 inches
- Soils that have more clay in the subsoil
- Soils that have a seasonal high water table at a depth of more than 1 foot
- Soils that have more sand in the underlying material

Properties and Qualities of the Hartsburg Soil

Parent material: Loess
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 4.5 to 6.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: At the surface to 1 foot below the surface
Ponding: At the surface to 0.5 foot above the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Hydric

Hickory Series

Taxonomic classification: Fine-loamy, mixed, active, mesic Typic Hapludalfs

Typical Pedon

Hickory silt loam, 35 to 60 percent slopes; at an elevation of 565 feet; Cass County, Illinois; 1,935 feet north and 2,130 feet west of the southeast corner of sec. 27, T. 18 N., R. 9 W.; USGS Ashland, Illinois, topographic quadrangle; lat. 39 degrees 58 minutes 47 seconds N. and long. 90 degrees 05 minutes 46 seconds W.; UTM Zone 15, 747957E 4429551N, NAD 83:

A1—0 to 1 inch; very dark grayish brown (10YR 3/2) silt loam, light brownish gray (10YR 6/2) dry; moderate medium granular structure; friable; many very fine roots; slightly acid; abrupt smooth boundary.

A2—1 to 4 inches; 90 percent dark grayish brown (10YR 4/2) and 10 percent brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak fine subangular blocky and weak fine granular structure; friable; many very fine roots; moderately acid; abrupt smooth boundary.

E—4 to 8 inches; brown (10YR 5/3) loam, light gray (10YR 7/2) dry; moderate thin platy structure; friable; few very fine and fine roots; few distinct very dark grayish brown (10YR 3/2) organic coatings in root channels and pores; common fine distinct very pale brown (10YR 8/2) clay depletions between peds; 3 percent gravel; strongly acid; abrupt smooth boundary.

BE—8 to 12 inches; yellowish brown (10YR 5/4) loam, light gray (10YR 7/2) dry; moderate very fine and fine subangular blocky structure; friable; few very fine roots; very few distinct brown (10YR 5/3) and very few distinct dark grayish brown (10YR 4/2) organic coatings in root channels and pores; common fine prominent very pale brown (10YR 8/2) clay depletions between peds; 3 percent gravel; strongly acid; clear smooth boundary.

Bt1—12 to 22 inches; yellowish brown (10YR 5/4) clay loam; moderate fine and medium subangular blocky structure; firm; few very fine roots; common distinct dark yellowish brown (10YR 4/4) clay films and common distinct very pale brown (10YR 7/3) silt coatings on faces of peds; 5 percent gravel; very strongly acid; clear smooth boundary.

Bt2—22 to 29 inches; yellowish brown (10YR 5/4) clay loam; moderate fine and medium subangular blocky structure; firm; few very fine roots; many distinct dark yellowish brown (10YR 4/4) clay films and few distinct very pale brown (10YR 7/3) silt coatings on faces of peds; 5 percent gravel; strongly acid; clear smooth boundary.

Bt3—29 to 40 inches; yellowish brown (10YR 5/4) clay loam; moderate medium prismatic and moderate medium subangular blocky structure; firm; few very fine roots; many distinct brown (7.5YR 4/4) clay films and very few distinct very pale brown (10YR 7/3) silt coatings on faces of peds; 5 percent gravel; moderately acid; clear smooth boundary.

Bt4—40 to 53 inches; yellowish brown (10YR 5/6) clay loam; weak medium prismatic and weak medium and coarse subangular blocky structure; firm; few very fine roots; many distinct brown (7.5YR 4/4) clay films on faces of peds; few fine prominent black (10YR 2/1) masses of manganese accumulation throughout; 5 percent gravel; moderately acid; gradual smooth boundary.

BCt—53 to 58 inches; yellowish brown (10YR 5/6) loam; weak medium prismatic and weak medium and coarse subangular blocky structure; firm; few very fine roots; common distinct brown (7.5YR 4/4) clay films on faces of peds; few fine prominent black (10YR 2/1) masses of manganese accumulation and common fine distinct brown (10YR 5/3) iron depletions throughout; 5 percent gravel; neutral; gradual smooth boundary.

C—58 to 63 inches; yellowish brown (10YR 5/6) loam; massive; firm; very few distinct brown (7.5YR 4/4) clay films in root channels and/or pores; few fine prominent black (10YR 2/1) masses of manganese accumulation and many fine prominent light brownish gray (2.5Y 6/2) iron depletions throughout; 3 percent gravel; slightly alkaline.

Range in Characteristics

Depth to carbonates: More than 40 inches
Depth to the base of the diagnostic horizon: More than 40 inches
Thickness of the loess: Less than 20 inches

Ap or A horizon(s):
Hue—10YR or 7.5YR
Value—2 to 5

Chroma—2 to 4
Texture—loam or silt loam
Content of rock fragments—0 to 5 percent

E horizon(s) (where present):
Hue—10YR
Value—4 to 6
Chroma—2 to 4
Texture—silt loam or loam
Content of rock fragments—0 to 5 percent

Bt horizon(s):
Hue—10YR, 7.5YR, or 2.5Y
Value—4 to 6
Chroma—3 to 6
Texture—clay loam, silty clay loam, loam, or gravelly clay loam
Content of rock fragments—0 to 20 percent

C horizon(s):
Hue—7.5YR, 10YR, or 2.5Y
Value—5 to 7
Chroma—1 to 8
Texture—loam, clay loam, gravelly loam, or gravelly clay loam
Content of rock fragments—2 to 20 percent

898F2—Hickory-Sylvan complex, 18 to 35 percent slopes, eroded

Setting

Landform: Ground moraines
Position on the landform: Backslopes

Map Unit Composition

Hickory and similar soils: 50 percent
Sylvan and similar soils: 35 percent
Dissimilar soils: 15 percent

Components of Minor Extent

Similar soils:
- Soils that have more clay in the lower part of the subsoil and in the underlying material
- Soils that have slopes of 10 to 18 percent
- Soils that have slopes of more than 35 percent
- Soils that have more clay in the surface layer

Dissimilar soils:
- The well drained Fayette and Rozetta soils that have slopes of less than 10 percent

Properties and Qualities of the Hickory Soil

Parent material: Till
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.4 inches to a depth of 60 inches

Content of organic matter in the surface layer: 1 to 2 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Sylvan Soil

Parent material: Loess
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 2 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Hickory—6e; Sylvan—6e
Prime farmland category: Not prime farmland
Hydric soil status: Hickory—not hydric; Sylvan—not hydric

Huntsville Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Cumulic Hapludolls

Typical Pedon

Huntsville silt loam, 0 to 2 percent slopes, occasionally flooded; at an elevation of 667 feet; Knox County, Illinois; 2,475 feet east and 495 feet south of the northwest corner of sec. 1, T. 12 N., R. 4 E.; USGS Lafayette, Illinois, topographic quadrangle; lat. 41 degrees 03 minutes 38 seconds N. and long. 89 degrees 59 minutes 42 seconds W.; UTM Zone 16, 248320E 4549776N, NAD 83:

Ap—0 to 10 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak fine and medium subangular blocky structure; friable; slightly acid; clear smooth boundary.

A1—10 to 16 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak fine granular structure; friable; few faint very dark gray (10YR 3/1) organic coatings on faces of peds; neutral; clear smooth boundary.

A2—16 to 27 inches; dark brown (10YR 3/3) silt loam, brown (10YR 5/3) dry; weak fine granular structure; friable; few faint very dark gray (10YR 3/1) organic coatings on faces of peds; neutral; clear smooth boundary.

AC—27 to 52 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak medium subangular blocky structure; friable; few faint very dark grayish brown (10YR 3/2) organic coatings on faces of peds; neutral; clear smooth boundary.
C—52 to 65 inches; dark brown (10YR 3/3) silt loam; massive; friable; slightly acid; clear smooth boundary.
Cg—65 to 80 inches; grayish brown (10YR 5/2) silt loam; massive; friable; few fine prominent black (N 2.5/) manganese accumulations; few fine distinct and prominent yellowish brown (10YR 5/4 and 5/6) and few coarse prominent yellowish red (5YR 5/6) iron accumulations; neutral.

Range in Characteristics

Thickness of the mollic epipedon: 24 to 57 inches
Depth to carbonates: More than 60 inches

Ap or A horizon(s):
Hue—10YR
Value—2 or 3
Chroma—1 to 3
Texture—silt loam

AC horizon(s):
Hue—10YR
Value—4 or 5
Chroma—3 or 4
Texture—silt loam; loam below a depth of 40 inches

C or Cg horizon(s):
Hue—10YR
Value—3 to 5
Chroma—2 to 4
Texture—silt loam; loam or strata of very fine sandy loam to fine sand below a depth of 40 inches in some pedons

3077A—Huntsville silt loam, 0 to 2 percent slopes, frequently flooded

Setting

Landform: Flood plains

Map Unit Composition

Huntsville and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have more sand throughout
- Soils that have a dark surface soil less than 24 inches thick
- Soils that have a lighter colored surface soil
- Soils that have slopes of more than 2 percent

Dissimilar soils:
- The somewhat poorly drained Lawson soils in the slightly lower positions
- The poorly drained Sawmill soils in swales on flood plains

Properties and Qualities of the Huntsville Soil

Parent material: Alluvium
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 13.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 4 percent
Shrink-swell potential: Low
Apparent seasonal high water table: 4 to 6 feet below the surface
Frequency and most likely period of flooding: Frequent, November to June
Potential for frost action: High
Hazard of corrosion: Low for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Prime farmland where protected from flooding or not frequently flooded during the growing season
Hydric soil status: Not hydric

Ipava Series

Taxonomic classification: Fine, smectitic, mesic Aquic Argiudolls

Typical Pedon

Ipava silt loam, 0 to 2 percent slopes; at an elevation of about 804 feet; Knox County, Illinois; approximately 2,046 feet west and 594 feet north of the southeast corner of sec. 25, T. 13 N., R. 2 E.; USGS Oneida topographic quadrangle; lat. 41 degrees 04 minutes 48 seconds N. and long. 90 degrees 13 minutes 03 seconds W.; UTM Zone 15, 733732E 4551373N, NAD 83:

Ap—0 to 10 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; moderate fine and medium subangular blocky structure; friable; moderately acid; abrupt smooth boundary.

A—10 to 18 inches; very dark grayish brown (10YR 3/2) silty clay loam, grayish brown (10YR 5/2) dry; weak fine and medium subangular blocky structure; friable; common faint black (10YR 2/1) organic coatings on faces of peds; moderately acid; clear smooth boundary.

BA—18 to 24 inches; brown (10YR 4/3) silty clay loam; moderate fine and medium subangular blocky structure; friable; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds; few distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few fine distinct light brownish gray (2.5Y 6/2) iron depletions in the matrix; moderately acid; clear smooth boundary.

Btg1—24 to 31 inches; dark grayish brown (10YR 4/2) silty clay; moderate fine prismatic structure parting to moderate fine subangular blocky; friable; common distinct dark gray (10YR 4/1) clay films on faces of peds; common fine prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; few fine distinct light brownish gray (2.5Y 6/2) iron depletions in the matrix; slightly acid; clear smooth boundary.

Btg2—31 to 37 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate medium prismatic structure parting to moderate medium angular blocky; friable; common

distinct dark gray (10YR 4/1) clay films on faces of peds; common medium prominent strong brown (7.5YR 5/8) masses of iron accumulation in the matrix; few fine prominent black (7.5YR 2.5/1) very weakly cemented manganese concretions throughout; few fine prominent black (7.5YR 2.5/1) manganese stains on faces of peds; common fine faint light brownish gray (2.5Y 6/2) iron depletions in the matrix; slightly alkaline; gradual smooth boundary.

BCg—37 to 50 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate medium prismatic structure parting to moderate medium angular blocky; friable; few distinct very dark grayish brown (10YR 3/2) organo-clay films occurring as linings in pores and on a few vertical faces of peds; common fine prominent strong brown (7.5YR 5/8) masses of iron accumulation in the matrix; few fine prominent black (7.5YR 2.5/1) very weakly cemented manganese concretions throughout; common fine prominent black (7.5YR 2.5/1) manganese stains on faces of peds; common fine faint light brownish gray (2.5Y 6/2) iron depletions in the matrix; slightly alkaline; clear smooth boundary.

Cg—50 to 60 inches; light brownish gray (2.5Y 6/2) silt loam; massive; friable; few faint very dark grayish brown (10YR 3/2) organo-clay films occurring as linings in pores; common fine prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; few fine prominent black (7.5YR 2.5/1) very weakly cemented manganese concretions throughout; few fine prominent black (7.5YR 2.5/1) manganese stains on faces of vertical cracks; moderately alkaline.

Range in Characteristics

Depth to carbonates: More than 40 inches
Depth to the base of the diagnostic horizon: 35 to 55 inches
Thickness of the mollic epipedon: 10 to 18 inches

Ap and/or A horizon(s):
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—silt loam or silty clay loam

BA, Bt, or Btg horizon(s):
Hue—10YR or 2.5Y
Value—3 to 6
Chroma—2 to 4
Texture—silty clay loam or silty clay

Cg or C horizon(s):
Hue—10YR or 2.5Y
Value—5 or 6
Chroma—1 to 4
Texture—silt loam

43A—Ipava silt loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Talfs (fig. 4; fig. 7)

Map Unit Composition

Ipava and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that have a thinner dark surface layer
- Soils that have less clay in the upper part of the subsoil
- Soils that have slopes of more than 2 percent

Dissimilar soils:
- The well drained Osco soils on shoulders and the slightly higher summits
- The well drained Elkhart soils on backslopes
- The poorly drained Denny and Sable soils in depressions

Properties and Qualities of the Ipava Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.5 to 5.0 percent
Shrink-swell potential: High
Apparent seasonal high water table: 1 to 2 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Keomah Series

Taxonomic classification: Fine, smectitic, mesic Aeric Endoaqualfs

Typical Pedon

Keomah silt loam, 0 to 2 percent slopes; at an elevation of 655 feet; Adams County, Illinois; 2,495 feet south and 300 feet west of the northeast corner of sec. 4, T. 2 N., R. 7 W.; USGS Loraine, Illinois, topographic quadrangle; lat. 40 degrees 11 minutes 24 seconds N. and long. 91 degrees 12 minutes 14 seconds W.; UTM Zone 15, 652882E 4450397N, NAD 83:

Ap1—0 to 6 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; weak thick platy structure parting to weak fine subangular blocky; friable; many very fine and fine roots; moderately acid; abrupt smooth boundary.

Ap2—6 to 11 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; weak medium platy structure parting to weak very fine subangular blocky; friable; common very fine and fine roots; few fine distinct brown (7.5YR 4/4) masses of iron and manganese accumulation throughout; moderately acid; abrupt smooth boundary.

E—11 to 18 inches; grayish brown (10YR 5/2) silt loam, light gray (10YR 7/2) dry; weak medium platy structure parting to weak very fine subangular blocky; friable;

common fine roots; few distinct dark grayish brown (10YR 4/2) coatings on faces of peds and in pores; few distinct light gray (10YR 7/2) clay depletions throughout; few fine distinct black (2.5Y 2.5/1) masses of manganese accumulation throughout and few fine prominent strong brown (7.5YR 5/6) masses of iron accumulation throughout; slightly acid; clear smooth boundary.

Bt1—18 to 25 inches; brown (10YR 5/3) silty clay loam; weak medium prismatic structure parting to moderate fine subangular blocky; firm; common fine roots; many distinct grayish brown (10YR 5/2) clay films on faces of peds; many fine prominent strong brown (7.5YR 5/6) masses of iron accumulation throughout, common fine distinct black (2.5Y 2.5/1) masses of manganese accumulation throughout, and few fine faint grayish brown (10YR 5/2) iron depletions throughout; strongly acid; clear smooth boundary.

Bt2—25 to 33 inches; brown (10YR 5/3) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; firm; few fine roots; many distinct grayish brown (10YR 5/2) clay films on faces of peds; common fine prominent black (2.5Y 2.5/1) masses of manganese accumulation and many fine prominent strong brown (7.5YR 5/6) masses of iron accumulation throughout; strongly acid; clear smooth boundary.

Bt3—33 to 44 inches; brown (10YR 5/3) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; firm; few very fine roots; common distinct grayish brown (10YR 5/2) clay films on faces of peds; many fine prominent strong brown (7.5YR 5/6) masses of iron accumulation throughout, common fine prominent black (2.5Y 2.5/1) masses of manganese accumulation throughout, and common fine faint light brownish gray (10YR 6/2) iron depletions throughout; moderately acid; clear smooth boundary.

Btg—44 to 51 inches; light brownish gray (10YR 6/2) silty clay loam; weak coarse prismatic structure; firm; few fine roots; few distinct dark grayish brown (10YR 4/2) clay films in root channels and/or pores; few fine prominent black (2.5Y 2.5/1) masses of manganese accumulation and many medium prominent strong brown (7.5YR 5/6) masses of iron accumulation throughout; moderately acid; clear smooth boundary.

BCg1—51 to 63 inches; light brownish gray (10YR 6/2) silt loam; weak coarse prismatic structure; friable; few very fine roots; common distinct very dark grayish brown (10YR 3/2) organo-clay films in root channels and/or pores; many medium prominent strong brown (7.5YR 5/6) masses of iron accumulation and few fine prominent black (2.5Y 2.5/1) masses of manganese accumulation throughout; slightly acid; clear smooth boundary.

BCg2—63 to 76 inches; light brownish gray (10YR 6/2) silt loam; weak coarse prismatic structure; friable; common distinct very dark grayish brown (10YR 3/2) organo-clay films in root channels and/or pores; few fine prominent black (2.5Y 2.5/1) masses of manganese accumulation and many medium prominent strong brown (7.5YR 5/6) masses of iron accumulation throughout; slightly acid; clear smooth boundary.

C—76 to 89 inches; yellowish brown (10YR 5/4) silt loam; massive; friable; few medium distinct strong brown (7.5YR 5/6) masses of iron accumulation throughout, few fine prominent black (2.5Y 2.5/1) masses of manganese accumulation throughout, and common distinct light brownish gray (10YR 6/2) iron depletions throughout; slightly acid.

Range in Characteristics

Depth to the base of the diagnostic horizon: 40 to 76 inches

Ap or A horizon(s):

Hue—10YR

Value—3 or 4; 3 in horizons that are less than 3 inches thick

Chroma—1 or 2
Texture—silt loam

E horizon(s):
Hue—10YR
Value—4 or 5
Chroma—1 to 3
Texture—silt loam

Bt or Btg horizon(s):
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—2 to 4
Texture—silty clay loam or silty clay

C or Cg horizon(s):
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—2 to 6
Texture—silty clay loam or silt loam

17A—Keomah silt loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Talfs (fig. 4; fig. 5)

Map Unit Composition

Keomah and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have a darker surface layer
- Soils that have a darker and thicker surface soil
- Soils that have less clay in the subsoil
- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that have slopes of more than 2 percent

Dissimilar soils:
- The well drained Rozetta soils on summits and shoulders
- The poorly drained Rushville soils in depressions

Properties and Qualities of the Keomah Soil

Parent material: Loess
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Moderately slow or moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: High
Apparent seasonal high water table: 0.5 foot to 2.0 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Not hydric

Knight Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Argiaquic Argialbolls

Typical Pedon

Knight silt loam, 0 to 2 percent slopes; at an elevation of about 612 feet; Logan County, Illinois; 330 feet north and 2,170 feet east of the southwest corner of sec. 9, T. 20 N., R. 1 W.; USGS Waynesville West, Illinois, topographic quadrangle; lat. 40 degrees 11 minutes 39 seconds N. and long. 89 degrees 12 minutes 53 seconds W.; UTM Zone 16, 311490E 4451657N, NAD 83:

Ap—0 to 10 inches; black (10YR 2/1) silt loam, gray (10YR 5/1) dry; moderate very fine subangular blocky structure (compacted); friable; few fine roots; neutral; abrupt smooth boundary.

Eg—10 to 16 inches; gray (10YR 5/1) silt loam; moderate medium platy structure; friable; few fine roots; few distinct dark grayish brown (10YR 4/2) organic stains on faces of peds; few fine prominent dark brown (7.5YR 3/4) iron and manganese masses in the matrix; neutral; clear smooth boundary.

BEg—16 to 22 inches; light brownish gray (2.5Y 6/2) silt loam; moderate thick platy structure parting to moderate fine subangular blocky; friable; few fine roots; few distinct dark grayish brown (10YR 4/2) organic stains on faces of peds; few fine prominent dark brown (7.5YR 3/4) iron and manganese masses in the matrix; neutral; gradual smooth boundary.

Btg1—22 to 35 inches; light brownish gray (2.5Y 6/2) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; friable; few faint gray (2.5Y 6/1) silt coatings on faces of peds, common distinct grayish brown (10YR 5/2) clay films on faces of peds, and few distinct dark grayish brown (10YR 4/2) clay films on surfaces along pores; few fine prominent black (7.5YR 2.5/1) manganese concretions and few fine prominent strong brown (7.5YR 4/6) iron and manganese masses in the matrix; slightly acid; gradual smooth boundary.

Btg2—35 to 53 inches; variegated strong brown (7.5YR 5/6 and 4/6) and light brownish gray (2.5Y 6/2) silty clay loam; weak coarse prismatic structure; friable; few faint gray (2.5Y 6/1) silt coatings on faces of peds, few distinct grayish brown (10YR 5/2) clay films on faces of peds, and few distinct dark grayish brown (10YR 4/2) clay films on surfaces along pores; fine prominent black (7.5YR 2.5/1) manganese concretions in the matrix; slightly acid; gradual smooth boundary.

BCg—53 to 70 inches; variegated light brownish gray (2.5Y 6/2) and strong brown (7.5YR 5/6 and 4/6) silt loam; weak coarse prismatic structure; friable; few distinct dark grayish brown (10YR 4/2) clay films on surfaces along pores; few fine prominent black (7.5YR 2.5/1) manganese concretions in the matrix; neutral; abrupt smooth boundary.

2Cg1—70 to 79 inches; grayish brown (10YR 5/2), stratified sandy clay loam and sandy loam; massive; friable; few fine prominent strong brown (7.5YR 4/6) masses

of iron and manganese and few fine distinct black (7.5YR 2.5/1) manganese concretions in the matrix; 5 percent gravel; neutral; gradual smooth boundary.

2Cg2—79 to 88 inches; dark grayish brown (10YR 4/2) gravelly sandy clay loam; massive; friable; few fine distinct black (7.5YR 2.5/1) manganese concretions and few fine prominent strong brown (7.5YR 4/6) masses of iron and manganese in the matrix; 15 percent gravel; neutral.

Range in Characteristics

Depth to the base of the diagnostic horizon: 45 to 60 inches
Thickness of the mollic epipedon: 10 to 24 inches
Depth to the top of the argillic horizon: More than 20 inches
Thickness of the loess: 54 to 72 inches
Depth to carbonates (where present): More than 54 inches

Ap or A horizon(s):
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—silt loam

Eg or BEg horizon(s):
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 or 2
Texture—silt loam

Btg or BCg horizon(s):
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 or 2
Texture—silty clay loam or silt loam

2BCg, 2C, or 2Cg horizon(s):
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 6
Texture—stratified sandy clay loam, clay loam, sandy loam, silt loam, or loam or the gravelly analogs of these textures
Content of rock fragments—0 to 25 percent

191A—Knight silt loam, 0 to 2 percent slopes

Setting

Landform: Stream terraces and outwash plains
Position on the landform: Talfs (fig. 8)

Map Unit Composition

Knight and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils in which the depth to the top of the argillic horizon is less than 20 inches
- Soils that have a thinner dark surface layer
- Soils that have more sand in the upper part of the subsoil

- Soils that have a seasonal high water table at a depth of more than 1 foot
- Soils that have more clay in the subsoil

Dissimilar soils:

- The well drained Plano and Tama soils in the slightly higher positions

Properties and Qualities of the Knight Soil

Parent material: Loess or other silty material over outwash
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow or moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 4 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: At the surface to 1 foot below the surface
Ponding: At the surface to 0.5 foot above the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Hydric

7191A—Knight silt loam, 0 to 2 percent slopes, rarely flooded

Setting

Landform: Flood-plain steps

Map Unit Composition

Knight and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:

- Soils in which the depth to the top of the argillic horizon is less than 20 inches
- Soils that have less clay in the subsoil
- Soils that have more sand in the surface soil and in the upper part of the subsoil
- Soils that have a seasonal high water table at a depth of more than 1 foot
- Soils that have more clay in the subsoil

Dissimilar soils:

- The somewhat poorly drained Tice soils that are subject to frequent flooding; in the lower areas
- The well drained Proctor soils in the slightly higher positions

Properties and Qualities of the Knight Soil

Parent material: Loess or other silty material over outwash
Drainage class: Poorly drained

Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow or moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 4 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: At the surface to 1 foot below the surface
Ponding: At the surface to 0.5 foot above the surface
Frequency and most likely period of flooding: Rare, November to June
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Hydric

Landes Series

Taxonomic classification: Coarse-loamy, mixed, superactive, mesic Fluventic Hapludolls

Typical Pedon

Landes fine sandy loam, 0 to 2 percent slopes, frequently flooded; at an elevation of about 440 feet; Cass County, Illinois; 99 feet south and 990 feet west of the northeast corner of sec. 4, T. 18 N., R. 11 W.; USGS Clearlake, Illinois, topographic quadrangle; lat. 40 degrees 02 minutes 54 seconds N. and long. 90 degrees 20 minutes 01 second W.; UTM Zone 15, 727445E 4436534N, NAD 83:

Ap—0 to 5 inches; very dark grayish brown (10YR 3/2) fine sandy loam, brown (10YR 4/3) dry; weak fine subangular blocky structure parting to weak fine granular; friable; few very fine roots; few fine very dark gray (10YR 3/1) organic coatings on faces of peds; neutral; abrupt smooth boundary.

A—5 to 14 inches; very dark grayish brown (10YR 3/2) fine sandy loam, brown (10YR 5/3) dry; weak medium subangular blocky structure; friable; few very fine roots; neutral; clear smooth boundary.

AB—14 to 19 inches; dark brown (10YR 3/3) loam, brown (10YR 5/3) dry; weak fine and medium subangular blocky structure; friable; few very fine roots; many faint very dark grayish brown (10YR 3/2) organic coatings on faces of peds; neutral; clear smooth boundary.

Bw1—19 to 23 inches; brown (10YR 4/3) loam; weak fine and medium subangular blocky structure; friable; few very fine roots; many faint dark brown (10YR 3/3) and few faint very dark grayish brown (10YR 3/2) organic coatings on faces of peds; neutral; clear smooth boundary.

Bw2—23 to 28 inches; brown (10YR 4/3) fine sandy loam; weak medium subangular blocky structure; friable; few very fine roots; common faint dark brown (10YR 3/3) organic coatings on faces of peds; neutral; clear smooth boundary.

Bw3—28 to 32 inches; brown (10YR 4/3) and dark yellowish brown (10YR 4/4) fine sandy loam; weak medium subangular blocky structure; very friable; few very fine roots; common faint dark brown (10YR 3/3) organic coatings on faces of peds; less than 2 percent fine gravel; neutral; clear smooth boundary.

BC—32 to 36 inches; dark yellowish brown (10YR 4/4) and brown (10YR 4/3) loamy sand; weak medium subangular blocky structure; very friable; few very fine roots; 5 percent fine gravel; neutral; clear smooth boundary.
C—36 to 60 inches; yellowish brown (10YR 5/4) sand; single grain; loose; 2 percent fine gravel; neutral.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches

Ap, A, or AB horizon(s):
Hue—10YR
Value—2 or 3
Chroma—1 to 3
Texture—fine sandy loam or loam

Bw horizon(s):
Hue—10YR
Value—3 to 6
Chroma—2 to 4
Texture—loam, fine sandy loam, very fine sandy loam, sandy loam, loamy fine sand, or loamy very fine sand

BC or C horizon(s):
Hue—10YR, 7.5YR, 5YR, or 2.5YR
Value—4 to 6
Chroma—1 to 4
Texture—sand, fine sand, very fine sand, loamy sand, loamy fine sand, sandy loam, fine sandy loam, very fine sandy loam, loam, or silt loam; many pedons are stratified

3304A—Landes fine sandy loam, 0 to 2 percent slopes, frequently flooded

Setting

Landform: Flood plains

Map Unit Composition

Landes and similar soils: 95 percent
Dissimilar soils: 5 percent

Components of Minor Extent

Similar soils:
- Soils that have more sand in the surface soil and in the subsoil
- Soils that have more clay in the surface soil and in the subsoil
- Soils that have slopes of more than 2 percent

Dissimilar soils:
- The somewhat poorly drained Riley soils in positions similar to those of the Landes soil
- The somewhat poorly drained Tice soils in the slightly lower positions

Properties and Qualities of the Landes Soil

Parent material: Loamy alluvium
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately rapid

Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 5.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: Low
Seasonal high water table: More than 6 feet below the surface
Frequency and most likely period of flooding: Frequent, November to June
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and moderate for concrete
Surface runoff class: Very low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderately high

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Prime farmland where protected from flooding or not frequently flooded during the growing season
Hydric soil status: Not hydric

7304A—Landes fine sandy loam, 0 to 2 percent slopes, rarely flooded

Setting

Landform: Flood plains

Map Unit Composition

Landes and similar soils: 95 percent
Dissimilar soils: 5 percent

Components of Minor Extent

Similar soils:
- Soils that have more sand in the surface soil and in the subsoil
- Soils that have more clay in the surface soil and in the subsoil
- Soils that have slopes of more than 2 percent

Dissimilar soils:
- The somewhat poorly drained Riley soils in positions similar to those of the Landes soil
- The somewhat poorly drained Tice soils that are subject to frequent flooding; in the lower positions

Properties and Qualities of the Landes Soil

Parent material: Loamy alluvium
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately rapid
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 5.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 2 percent
Shrink-swell potential: Low
Seasonal high water table: More than 6 feet below the surface
Frequency and most likely period of flooding: Rare, November to June
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and moderate for concrete

Surface runoff class: Very low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderately high

Interpretive Groups

Land capability classification: 2s
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

830—Landfills

This map unit occurs as areas of garbage and other refuse and as areas of rubble from the demolition of buildings and pavement. The surface is typically covered by a layer of compacted earth. Slopes vary considerably. Some landfills are active, but some have been abandoned.

Map Unit Composition

Landfills: 90 percent
Dissimilar components: 10 percent

Components of Minor Extent

Dissimilar components:
- Small areas of natural soils adjacent to the landfills
- The well drained, loamy Orthents in areas adjacent to the landfills

Interpretive Groups

Land capability classification: None assigned
Prime farmland category: Not prime farmland
Hydric soil status: Not applicable

Lawndale Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Aquic Argiudolls

Typical Pedon

Lawndale silt loam, 0 to 2 percent slopes; at an elevation of about 570 feet; Logan County, Illinois; about 2,115 feet west and 665 feet south of the northeast corner of sec. 21, T. 21 N., R. 4 W.; USGS Delavan South, Illinois, topographic quadrangle; lat. 40 degrees 15 minutes 37 seconds N. and long. 89 degrees 33 minutes 10 seconds W.; UTM Zone 16, 282920E 4459764N, NAD 83:

Ap—0 to 6 inches; very dark brown (10YR 2/2) silt loam, dark gray (10YR 4/1) dry; moderate very fine granular structure; friable; moderately acid; abrupt smooth boundary.

A1—6 to 13 inches; very dark brown (10YR 2/2) silt loam, dark gray (10YR 4/1) dry; moderate medium granular structure; friable; few faint black (10YR 2/1) organic coatings on faces of peds; moderately acid; clear smooth boundary.

A2—13 to 18 inches; very dark grayish brown (10YR 3/2) silt loam, dark gray (10YR 4/1) dry; moderate coarse granular structure; friable; common distinct very dark brown (10YR 2/2) organic coatings on faces of peds; slightly acid; gradual smooth boundary.

Bt1—18 to 23 inches; brown (10YR 4/3) silty clay loam; moderate very fine subangular blocky structure; friable; many distinct dark grayish brown (10YR 4/2) clay films and common distinct very dark brown (10YR 2/2) organic coatings on faces of

peds; few fine faint light brownish gray (10YR 6/2) iron depletions lining pores; few fine distinct black (10YR 2/1) manganese accumulations throughout; slightly acid; clear smooth boundary.

Bt2—23 to 31 inches; brown (10YR 4/3) silty clay loam; moderate fine subangular blocky structure; friable; many distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common fine faint light brownish gray (10YR 6/2) iron depletions lining pores; common fine prominent yellowish brown (10YR 5/8) masses of iron accumulation throughout; few fine distinct black (10YR 2/1) manganese accumulations throughout; neutral; clear smooth boundary.

Bt3—31 to 38 inches; yellowish brown (10YR 5/6) silty clay loam; moderate medium subangular blocky structure; friable; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; few fine prominent light brownish gray (10YR 6/2) iron depletions lining pores; few fine faint yellowish brown (10YR 5/8) masses of iron accumulation throughout; few fine prominent black (10YR 2/1) manganese accumulations throughout; neutral; clear smooth boundary.

Bt4—38 to 44 inches; yellowish brown (10YR 5/6) silt loam; moderate coarse subangular blocky structure; friable; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; few fine distinct light brownish gray (10YR 6/2) iron depletions lining pores; few fine faint yellowish brown (10YR 5/8) masses of iron accumulation throughout; few fine prominent black (10YR 2/1) manganese accumulations throughout; neutral; abrupt smooth boundary.

2Bt5—44 to 52 inches; dark yellowish brown (10YR 3/4) loamy fine sand; weak coarse subangular blocky structure; very friable; few distinct dark grayish brown (10YR 4/2) clay films on faces of peds; few fine prominent yellowish brown (10YR 5/8) masses of iron accumulation throughout; neutral; gradual smooth boundary.

2C1—52 to 71 inches; yellowish brown (10YR 5/8) fine sand; single grain; loose; slightly alkaline; gradual smooth boundary.

2C2—71 to 80 inches; yellowish brown (10YR 5/8) fine sand; single grain; loose; slightly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the loess: 40 to 60 inches
Thickness of the mollic epipedon: 10 to 19 inches
Depth to the base of the diagnostic horizon: 45 to more than 60 inches
Depth to carbonates: More than 60 inches

Ap and A horizon(s):
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—silt loam

Bt horizon(s):
Hue—10YR or 2.5Y
Value—4 or 5
Chroma—2 to 6
Texture—silt loam or silty clay loam

2Bt or 2BC horizon(s):
Hue—10YR or 2.5Y
Value—3 to 5
Chroma—2 to 6
Texture—loamy sand, loamy fine sand, fine sandy loam, loam, or clay loam

2C horizon(s):
Hue—10YR or 7.5YR

Value—4 or 5
Chroma—3 to 8
Texture—loamy fine sand, loamy sand, fine sand, or sand

683A—Lawndale silt loam, 0 to 2 percent slopes

Setting

Landform: Flats and ground moraines
Position on the landform: Talfs and toeslopes (fig. 6)

Map Unit Composition

Lawndale and similar soils: 95 percent
Dissimilar soils: 5 percent

Components of Minor Extent

Similar soils:
- Soils that have more sand in the surface soil and in the upper part of the subsoil
- Soils that have less than 10 percent sand to a depth of more than 60 inches
- Soils that have sandy material at a depth of less than 40 inches
- Soils that have slopes of more than 2 percent

Dissimilar soils:
- The well drained Broadwell soils in the slightly higher positions
- The poorly drained Knight and Sable soils in depressions

Properties and Qualities of the Lawndale Soil

Parent material: Loess over eolian sands
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 5 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: 1 to 2 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Lawson Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Aquic Cumulic Hapludolls

Typical Pedon

Lawson silt loam, 0 to 2 percent slopes, frequently flooded; at an elevation of 685 feet;

Adams County, Illinois; 1,900 feet east and 265 feet south of the northwest corner of sec. 3, T. 1 S., R. 5 W.; USGS Clayton, Illinois, topographic quadrangle; lat. 40 degrees 01 minute 04 seconds N. and long. 90 degrees 57 minutes 54 seconds W.; UTM Zone 15, 673680E 4431720N, NAD 83:

Ap—0 to 6 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine granular structure; friable; many fine roots; neutral; abrupt smooth boundary.

A1—6 to 14 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine granular structure; friable; common fine roots; neutral; clear smooth boundary.

A2—14 to 22 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak fine granular structure; friable; common fine roots; common fine faint brown (10YR 4/3) masses of iron and manganese accumulation throughout; neutral; clear smooth boundary.

A3—22 to 33 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak fine granular structure; friable; common fine roots; common fine faint brown (10YR 4/3) masses of iron and manganese accumulation throughout; neutral; clear smooth boundary.

C1—33 to 40 inches; stratified, 70 percent very dark grayish brown (10YR 3/2) and 20 percent dark brown (10YR 3/3) silt loam; massive; friable; common fine roots; common fine and medium prominent yellowish brown (10YR 5/6) masses of iron accumulation and common fine and medium faint dark grayish brown (10YR 4/2) iron depletions throughout; slightly acid; clear smooth boundary.

C2—40 to 56 inches; stratified, 60 percent very dark grayish brown (10YR 3/2) and 30 percent dark brown (10YR 3/3) silt loam; massive; friable; few fine roots; common fine and medium prominent yellowish brown (10YR 5/6) masses of iron accumulation and common medium faint dark grayish brown (10YR 4/2) iron depletions throughout; slightly acid; clear smooth boundary.

C3—56 to 75 inches; stratified, 80 percent very dark grayish brown (10YR 3/2) and 10 percent dark brown (10YR 3/3) silt loam; massive; friable; few fine roots; common fine and medium prominent yellowish brown (10YR 5/6) and common medium prominent strong brown (7.5YR 5/8) masses of iron accumulation between peds and many medium faint dark grayish brown (10YR 4/2) iron depletions throughout; slightly acid; clear smooth boundary.

C4—75 to 80 inches; stratified, 80 percent dark grayish brown (10YR 4/2) and 10 percent very dark grayish brown (10YR 3/2) silt loam; massive; friable; common medium and coarse prominent yellowish brown (10YR 5/6) and common fine prominent strong brown (7.5YR 5/8) masses of iron accumulation throughout and common fine faint dark gray (10YR 4/1) iron depletions throughout; neutral.

Range in Characteristics

Thickness of the mollic epipedon: 24 to 36 inches

Ap or A horizon(s):
- Hue—10YR
- Value—2 or 3
- Chroma—1 or 2
- Texture—silt loam

C horizon(s):
- Hue—10YR or 2.5Y
- Value—3 to 6
- Chroma—1 to 3
- Texture—silt loam or silty clay loam; strata containing more sand below a depth of 40 inches in some pedons

3451A—Lawson silt loam, 0 to 2 percent slopes, frequently flooded

Setting

Landform: Flood plains (fig. 5)

Map Unit Composition

Lawson and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have a dark surface soil less than 24 inches thick
- Soils that have a lighter colored surface soil
- Soils that have more sand throughout
- Soils that have a buried soil at a depth of less than 40 inches
- Soils that have more sand in the underlying material

Dissimilar soils:
- The well drained Huntsville, Landes, and Ross soils in the slightly higher positions
- The poorly drained Sawmill soils in swales

Properties and Qualities of the Lawson Soil

Parent material: Alluvium
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 4 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: 1 to 2 feet below the surface
Frequency and most likely period of flooding: Frequent, November to June
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Prime farmland where protected from flooding or not frequently flooded during the growing season
Hydric soil status: Not hydric

8451A—Lawson silt loam, 0 to 2 percent slopes, occasionally flooded

Setting

Landform: Flood plains

Map Unit Composition

Lawson and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have more clay in the underlying material

Dissimilar soils:
- The poorly drained Sawmill soils in swales

Properties and Qualities of the Lawson Soil

Parent material: Alluvium
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.5 to 5.0 percent
Shrink-swell potential: Low
Apparent seasonal high water table: 1 to 2 feet below the surface
Frequency and most likely period of flooding: Occasional, November to June
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Lenzburg Series

Taxonomic classification: Fine-loamy, mixed, active, calcareous, mesic Haplic Udarents

Typical Pedon

Lenzburg silt loam, 1 to 7 percent slopes; at an elevation of 525 feet; Randolph County, Illinois; approximately 12 feet south and 580 feet east of the center of sec. 22, T. 5 S., R. 6 W.; USGS Steeleville, Illinois, topographic quadrangle; lat. 38 degrees 04 minutes 55 seconds N. and long. 89 degrees 44 minutes 54 seconds W.; UTM Zone 16, 258966E 4218479N, NAD 83:

Ap—0 to 3 inches; mixed brown (10YR 4/3), light brownish gray (10YR 6/2), yellowish brown (10YR 5/6), and yellowish red (5YR 5/6) silt loam; pale brown (10YR 6/3) dry; weak fine granular structure; friable, slightly hard; about 7 percent rock fragments (till pebbles and channers and flags of limestone and siltstone); slightly effervescent; slightly alkaline; abrupt wavy boundary.

AC—3 to 6 inches; mixed yellowish brown (10YR 5/4), light brownish gray (10YR 6/2), and strong brown (7.5YR 5/6) silt loam; moderate medium platy structure; friable, hard and slightly hard; about 9 percent rock fragments (till pebbles and channers and flags of limestone and siltstone); strongly effervescent; slightly alkaline; abrupt wavy boundary.

C1—6 to 10 inches; brown (10YR 4/3) silt loam; strong thick horizontal layers; massive; firm, hard; few light brownish gray (10YR 6/2) soil fragments of silty clay loam; few distinct very dark gray (10YR 3/1) coatings on faces of soil fragments;

about 11 percent rock fragments (till pebbles and channers and flags of limestone and siltstone); strongly effervescent; slightly alkaline; abrupt wavy boundary.

C2—10 to 33 inches; mixed brown (7.5YR 4/4) and pale brown (10YR 6/3) clay loam; massive; firm, hard; few vertical cleavage planes; few gray (10YR 5/1) soil fragments throughout and few yellowish red (5YR 5/6) soil fragments in the lower part; about 9 percent rock fragments (till pebbles and channers and flags of limestone and siltstone); strongly effervescent; slightly alkaline; clear smooth boundary.

C3—33 to 45 inches; mixed dark yellowish brown (10YR 4/4) and pale brown (10YR 6/3) clay loam; massive; firm, hard; few gray (10YR 6/1) and grayish brown (10YR 5/2) soil fragments; about 10 percent rock fragments (till pebbles and channers and flags of limestone and siltstone); strongly effervescent; slightly alkaline; clear smooth boundary.

C4—45 to 60 inches; mixed brown (7.5YR 4/4) and gray (10YR 5/1) channery clay loam; very firm, very hard; few yellowish red (5YR 5/8) soil fragments; about 17 percent rock fragments (limestone); strongly effervescent; slightly alkaline.

Range in Characteristics

General features: Some pedons have an AC horizon.

Ap or A horizon(s):
Hue—5YR, 10YR, 2.5Y, or 5Y
Value—2 to 6
Chroma—1 to 6
Texture—silt loam or silty clay loam
Content of rock fragments—5 to 25 percent

C horizon(s):
Hue—7.5YR or 10YR
Value—2 to 6
Chroma—1 to 4
Texture—silty clay loam, silt loam, loam, or clay loam or the channery, gravelly, or cobbly analogs of these textures
Content of rock fragments—5 to 25 percent

871B—Lenzburg silt loam, 1 to 7 percent slopes

Setting

Landform: Graded spoil banks
Position on the landform: Summits and shoulders

Map Unit Composition

Lenzburg and similar soils: 85 percent
Dissimilar components: 15 percent

Components of Minor Extent

Similar soils:
- Soils that have slopes of more than 7 percent

Dissimilar components:
- Small areas of natural soils
- Small areas of water (less than 2 acres in size)

Properties and Qualities of the Lenzburg Soil

Parent material: Mine spoil or earthy fill
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and low for concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

871D—Lenzburg silty clay loam, 7 to 20 percent slopes

Setting

Landform: Graded spoil banks
Position on the landform: Shoulders and backslopes

Map Unit Composition

Lenzburg and similar soils: 85 percent
Dissimilar components: 15 percent

Components of Minor Extent

Similar soils:
- Soils that have slopes of less than 7 percent
- Soils that have slopes of more than 20 percent

Dissimilar soils:
- Small areas of natural soils
- Small areas of water (less than 2 acres in size)

Properties and Qualities of the Lenzburg Soil

Parent material: Mine spoil or earthy fill
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 1.0 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None

Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and low for concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 6e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

Miami Series

Taxonomic classification: Fine-loamy, mixed, active, mesic Oxyaquic Hapludalfs

Typical Pedon

Miami silt loam, 10 to 18 percent slopes, eroded, on a slope of 12 percent in a wooded area; at an elevation of 845 feet; McLean County, Illinois; 1,500 feet north and 1,400 feet east of the southwest corner of sec. 26, T. 23 N., R. 4 E.; USGS Arrowsmith, Illinois, topographic quadrangle; lat. 40 degrees 25 minutes 03 seconds N. and long. 88 degrees 43 minutes 17 seconds W.; UTM Zone 16, 353959E 4475527N, NAD 83:

Ap—0 to 4 inches; very dark grayish brown (10YR 3/2) silt loam mixed with dark grayish brown (10YR 4/2) subsurface material, pale brown (10YR 6/3) dry; weak fine subangular blocky structure; friable; few fine roots; neutral; abrupt smooth boundary.

Bt1—4 to 12 inches; brown (10YR 5/3) silty clay loam; weak fine and medium subangular blocky structure; friable; few fine roots; few faint dark brown (10YR 3/3) organo-clay films on faces of peds; moderately acid; clear wavy boundary.

2Bt2—12 to 19 inches; brown (10YR 5/3) clay loam; moderate medium subangular blocky structure; friable; few fine roots; few faint brown (10YR 4/3) clay films on faces of peds; few fine prominent iron and manganese concretions and stains throughout; 5 percent fine gravel; moderately acid; clear wavy boundary.

2Bt3—19 to 28 inches; brown (10YR 5/3) clay loam; moderate medium angular blocky structure; friable; few fine roots; common faint brown (10YR 4/3) clay films on faces of peds; few fine faint grayish brown (2.5Y 5/2) iron depletions in the matrix; few fine prominent iron and manganese concretions and stains throughout; 5 percent fine gravel; neutral; clear wavy boundary.

2BCt—28 to 33 inches; light olive brown (2.5Y 5/4) clay loam; weak medium subangular blocky structure; friable; common faint brown (10YR 4/3) clay films on faces of peds; few fine distinct grayish brown (2.5Y 5/2) iron depletions in the matrix; common fine prominent iron and manganese concretions and stains throughout; 5 percent fine gravel; strongly effervescent; slightly alkaline; gradual wavy boundary.

2Cd—33 to 60 inches; light olive brown (2.5Y 5/4) loam; massive; firm; common medium distinct grayish brown (2.5Y 5/2) iron depletions in the matrix; common fine and medium prominent iron and manganese concretions and stains throughout; 10 percent fine and medium gravel; violently effervescent; moderately alkaline.

Range in Characteristics

Thickness of the loess: 0 to 18 inches
Depth to the base of the diagnostic horizon: 24 to 40 inches
Depth to carbonates: 20 to 40 inches

Ap or A horizon(s):
Hue—10YR
Value—3 or 4
Chroma—2 or 3
Texture—silt loam

E horizon(s) (where present):
Hue—10YR
Value—4 or 5
Chroma—3 or 4
Texture—silt loam or loam

Bt horizon(s) (formed in loess):
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—3 to 6
Texture—silty clay loam

Bt or 2Bt horizon(s) (formed in till):
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—3 to 6
Texture—clay loam
Content of rock fragments—1 to 10 percent

2Cd or 2C horizon(s):
Hue—10YR or 2.5Y
Value—5 or 6
Chroma—3 or 4
Texture—loam
Content of rock fragments—1 to 10 percent

27D2—Miami silt loam, 10 to 18 percent slopes, eroded

Setting

Landform: Ground moraines
Position on the landform: Backslopes

Map Unit Composition

Miami and similar soils: 100 percent

Components of Minor Extent

Similar soils:
- Soils that have more clay in the surface layer
- Soils that have less sand in the upper part of the subsoil
- Soils that have carbonates below a depth of 40 inches
- Soils that have carbonates at a depth of less than 20 inches

Properties and Qualities of the Miami Soil

Parent material: Loess over till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: 24 to 40 inches (dense material)
Available water capacity: About 7.5 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table: 2.0 to 3.5 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 4e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

Middletown Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Hapludalfs

Typical Pedon

Middletown silt loam, 2 to 5 percent slopes; at an elevation of 605 feet; Sangamon County, Illinois; 20 feet west and 1,145 feet south of the northeast corner of sec. 26, T. 17 N., R. 6 W.; USGS Athens, Illinois, topographic quadrangle; lat. 39 degrees 53 minutes 57 seconds N. and long. 89 degrees 43 minutes 53 seconds W.; UTM Zone 16, 266482E 4420143N, NAD 83:

Ap—0 to 9 inches; dark grayish brown (10YR 4/2) silt loam; moderate fine and medium granular structure; friable; common fine roots; neutral; abrupt smooth boundary.
E—9 to 12 inches; yellowish brown (10YR 5/4) silt loam; weak medium platy structure; friable; common fine roots; common distinct dark grayish brown (10YR 4/2) organic coatings on faces of peds; neutral; clear smooth boundary.
Bt1—12 to 17 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine subangular blocky structure; firm; common fine and medium roots; common distinct brown (10YR 4/3) clay films on faces of peds; slightly acid; clear smooth boundary.
Bt2—17 to 35 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium subangular blocky structure; firm; common distinct brown (10YR 4/3) clay films on faces of peds; few fine rounded black (5YR 2.5/1) manganese concretions in the matrix; strongly acid; gradual smooth boundary.
Bt3—35 to 44 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate coarse subangular blocky structure; friable; few distinct brown (10YR 4/3) clay films on vertical faces of peds; few fine black (5YR 2.5/1) manganese concretions in the matrix; moderately acid; clear smooth boundary.
2Bt4—44 to 47 inches; dark yellowish brown (10YR 4/4) clay loam; weak coarse subangular blocky structure; friable; few distinct brown (10YR 4/3) clay films on vertical faces of peds; moderately acid; abrupt smooth boundary.
2BC1—47 to 52 inches; dark yellowish brown (10YR 4/4) loamy fine sand; weak coarse subangular blocky structure; very friable; moderately acid; gradual smooth boundary.
2BC2—52 to 75 inches; stratified yellowish brown (10YR 5/6) and strong brown (7.5YR 4/6) sand and loamy sand; single grain; loose; 2-inch band of brown

(7.5YR 4/4) sandy loam starting at a depth of 64 inches; moderately acid; gradual smooth boundary.
2C—75 to 80 inches; strong brown (7.5YR 4/6) sand; single grain; loose; slightly acid.

Range in Characteristics

Thickness of the loess: 40 to 60 inches
Depth to the base of the diagnostic horizon: 45 to 80 inches

Ap horizon(s):
Hue—10YR
Value—4 or 5
Chroma—2 or 3
Texture—silt loam

E or BE horizon(s) (where present):
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam

Bt horizon(s):
Hue—10YR or 7.5YR
Value—4 or 5
Chroma—3 to 5
Texture—silty clay loam or silt loam

2Bt horizon(s) (where present):
Hue—10YR or 7.5YR
Value—4 or 5
Chroma—3 to 5
Texture—clay loam, fine sandy loam, or loam

2BC horizon(s) (where present):
Hue—10YR or 7.5YR
Value—4 or 5
Chroma—4 to 6
Texture—loamy fine sand, loamy sand, sand, or fine sand; thin strata of sandy loam

2C horizon(s):
Hue—10YR or 7.5YR
Value—4 or 5
Chroma—4 to 6
Texture—fine sand, sand, loamy fine sand, or loamy sand; stratified in some pedons

685B—Middletown silt loam, 2 to 5 percent slopes

Setting

Landform: Ground moraines, low hills, and knolls
Position on the landform: Summits and shoulders (fig. 5)

Map Unit Composition

Middletown and similar soils: 95 percent
Dissimilar soils: 5 percent

Components of Minor Extent

Similar soils:
- Soils that have sandy material at a depth of less than 40 inches
- Soils that have slopes of less than 2 percent
- Soils that have sandy material at a depth of more than 60 inches
- Soils that have a seasonal high water table within a depth of 6 feet

Dissimilar soils:
- The somewhat poorly drained Keomah soils in the less sloping positions
- The somewhat excessively drained Bloomfield soils in positions similar to those of the Middletown soil

Properties and Qualities of the Middletown Soil

Parent material: Loess over eolian sands
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

685C2—Middletown silt loam, 5 to 10 percent slopes, eroded

Setting

Landform: Ground moraines, knolls, and low hills
Position on the landform: Shoulders and backslopes (fig. 5)

Map Unit Composition

Middletown and similar soils: 95 percent
Dissimilar soils: 5 percent

Components of Minor Extent

Similar soils:
- Soils that have sandy material at a depth of more than 60 inches
- Soils that have sandy material at a depth of less than 40 inches
- Soils that have more clay in the surface layer
- Soils that have slopes of less than 5 percent

Dissimilar soils:
- The somewhat excessively drained Bloomfield soils on summits

Properties and Qualities of the Middletown Soil

Parent material: Loess over eolian sands
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 2 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

685D2—Middletown silt loam, 10 to 18 percent slopes, eroded

Setting

Landform: Ground moraines, knolls, and low hills
Position on the landform: Backslopes

Map Unit Composition

Middletown and similar soils: 95 percent
Dissimilar soils: 5 percent

Components of Minor Extent

Similar soils:
- Soils that have sandy material at a depth of less than 40 inches
- Soils that have more clay in the surface layer
- Soils that have slopes of less than 10 percent

Dissimilar soils:
- The somewhat excessively drained Bloomfield soils on summits

Properties and Qualities of the Middletown Soil

Parent material: Loess over eolian sands
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 2 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface

Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

M-W—Miscellaneous water

- This map unit consists of areas that are covered with water in most years, at least during the period that is warm enough for plants to grow. Many areas are covered throughout the year. Examples of this map unit are sewage lagoons, animal waste lagoons, coal washing lagoons, and water treatment facilities.

Onarga Series

Taxonomic classification: Coarse-loamy, mixed, superactive, mesic Typic Argiudolls
Taxadjunct features: The Onarga soil in map unit 827B2 has a thinner dark surface layer than is defined as the range for the series. This difference, however, does not significantly affect the use and management of the soil. This soil is classified as a coarse-loamy, mixed, superactive, mesic Mollic Hapludalf.

Typical Pedon

Onarga sandy loam, 0 to 2 percent slopes; at an elevation of about 495 feet; Mason County, Illinois; about 2,530 feet south and 2,350 feet east of the northwest corner of sec. 18, T. 22 N., R. 6 W.; USGS Forrest City, Illinois, topographic quadrangle; lat. 40 degrees 21 minutes 17 seconds N. and long. 89 degrees 49 minutes 11 seconds W.; UTM Zone 16, 260534E 4470951N, NAD 83:

Ap—0 to 10 inches; very dark grayish brown (10YR 3/2) sandy loam, dark grayish brown (10YR 4/2) dry; weak fine subangular blocky structure parting to weak fine granular; friable; common very fine roots throughout; many faint very dark gray (10YR 3/1) organic coatings on faces of peds; slightly acid; abrupt smooth boundary.

A—10 to 18 inches; very dark grayish brown (10YR 3/2) sandy loam, dark grayish brown (10YR 4/2) dry; weak fine subangular blocky structure parting to weak fine granular; friable; common very fine roots throughout; many faint very dark gray (10YR 3/1) organic coatings on faces of peds; slightly acid; abrupt smooth boundary.

Bt1—18 to 25 inches; brown (10YR 4/3) sandy loam; moderate medium subangular blocky structure; friable; common very fine roots throughout; many distinct very dark grayish brown (10YR 3/2) and common distinct dark brown (10YR 3/3) organo-clay films on faces of peds; moderately acid; clear smooth boundary.

Bt2—25 to 33 inches; dark yellowish brown (10YR 4/4) sandy loam; weak medium prismatic structure parting to moderate medium subangular blocky; friable; few very fine roots throughout; common distinct dark brown (10YR 3/3) organo-clay films on faces of peds; moderately acid; clear smooth boundary.

BC—33 to 36 inches; dark yellowish brown (10YR 4/6) loamy sand; weak medium prismatic structure parting to weak medium subangular blocky; very friable; few very fine roots throughout; moderately acid; gradual smooth boundary.
C1—36 to 63 inches; dark yellowish brown (10YR 4/6) sand; single grain; loose; moderately acid; gradual smooth boundary.
C2—63 to 80 inches; 50 percent dark yellowish brown (10YR 4/4) and 50 percent brown (7.5YR 4/4), stratified loamy sand and sand; single grain; loose; 2 percent fine gravel; slightly acid.

Range in Characteristics

Depth to the base of the diagnostic horizon: 25 to 40 inches
Thickness of the mollic epipedon or dark surface layer: 7 to 18 inches

Ap or A horizon(s):
Hue—10YR or 7.5YR
Value—2 or 3
Chroma—1 to 3
Texture—sandy loam or fine sandy loam

AB or BA horizon(s) (where present):
Hue—10YR or 7.5YR
Value—4 or 5
Chroma—3 to 6
Texture—loam or sandy loam

Bt horizon(s):
Hue—10YR or 7.5YR
Value—4 or 5
Chroma—3 to 6
Texture—loam or sandy loam; subhorizons of fine sandy loam, sandy clay loam, or clay loam in some pedons

BC horizon(s):
Hue—10YR or 7.5YR
Value—4 to 6
Chroma—3 to 6
Texture—sandy loam, loamy sand, fine sandy loam, or loamy fine sand

C or 2C horizon(s):
Hue—10YR or 7.5YR
Value—4 to 6
Chroma—4 to 6
Texture—stratified loamy fine sand, fine sand, fine sandy loam, loamy sand, sand, or sandy loam

827A—Broadwell-Onarga complex, 0 to 2 percent slopes

Setting

Landform: Stream terraces and ground moraines
Position on the landform: Talfs

Map Unit Composition

Broadwell and similar soils: 50 percent
Onarga and similar soils: 30 percent
Dissimilar soils: 20 percent

Components of Minor Extent

Similar soils:
- Soils that have sandy material at a depth of more than 60 inches

Dissimilar soils:
- The somewhat poorly drained Lawndale soils in the slightly lower positions
- The excessively drained Sparta soils in the slightly higher positions

Properties and Qualities of the Broadwell Soil

Parent material: Loess over eolian sands
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 4 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Properties and Qualities of the Onarga Soil

Parent material: Loamy eolian deposits over eolian sands
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Low
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and moderate for concrete
Surface runoff class: Very low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderately high

Interpretive Groups

Land capability classification: Broadwell—1; Onarga—2s
Prime farmland category: Prime farmland
Hydric soil status: Broadwell—not hydric; Onarga—not hydric

827B—Broadwell-Onarga complex, 2 to 5 percent slopes

Setting

Landform: Knolls, ground moraines, and stream terraces
Position on the landform: Broadwell—shoulders and backslopes; Onarga—summits and shoulders (fig. 6)

Map Unit Composition

Broadwell and similar soils: 50 percent
Onarga and similar soils: 30 percent
Dissimilar soils: 20 percent

Components of Minor Extent

Similar soils:
- Soils that have sandy material at a depth of more than 60 inches
- Soils that have slopes of less than 2 percent
- Soils that have slopes of more than 5 percent
- Soils that have a thinner dark surface layer

Dissimilar soils:
- The somewhat poorly drained Lawndale soils in the less sloping areas
- The excessively drained Sparta soils in positions similar to those of the Broadwell and Onarga soils

Properties and Qualities of the Broadwell Soil

Parent material: Loess over eolian sands
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 4 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Properties and Qualities of the Onarga Soil

Parent material: Loamy eolian deposits over eolian sands
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Low
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and moderate for concrete
Surface runoff class: Very low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderately high

Interpretive Groups

Land capability classification: Broadwell—2e; Onarga—2e
Prime farmland category: Prime farmland
Hydric soil status: Broadwell—not hydric; Onarga—not hydric

827B2—Broadwell-Onarga complex, 2 to 5 percent slopes, eroded

Setting

Landform: Stream terraces, ground moraines, and knolls
Position on the landform: Broadwell—shoulders and backslopes; Onarga—summits and shoulders

Map Unit Composition

Broadwell and similar soils: 50 percent
Onarga and similar soils: 30 percent
Dissimilar soils: 20 percent

Components of Minor Extent

Similar soils:
- Soils that have sandy material starting at a depth of more than 60 inches
- Soils that have a thicker dark surface soil
- Soils that have slopes of more than 5 percent

Dissimilar soils:
- The excessively drained Sparta soils in positions similar to those of the Broadwell and Onarga soils
- The somewhat poorly drained Lawndale soils in the less sloping positions

Properties and Qualities of the Broadwell Soil

Parent material: Loess over eolian sands
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 3 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Properties and Qualities of the Onarga Soil

Parent material: Loamy eolian deposits over eolian sands
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 2 percent
Shrink-swell potential: Low
Seasonal high water table: More than 6 feet below the surface
Flooding: None

Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and moderate for concrete
Surface runoff class: Very low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderately high

Interpretive Groups

Land capability classification: Broadwell—2e; Onarga—2e
Prime farmland category: Prime farmland
Hydric soil status: Broadwell—not hydric; Onarga—not hydric

802B—Orthents, loamy, undulating

Setting

Landform: Ground moraines
Position on the landform: Backslopes

Map Unit Composition

Orthents and similar soils: 85 percent
Dissimilar soils: 15 percent

Components of Minor Extent

Similar soils:
- Soils that have slopes of more than 7 percent

Dissimilar soils:
- The well drained Tama soils in undisturbed areas
- The moderately well drained Buckhart soils in undisturbed areas
- The somewhat poorly drained Ipava and Elburn soils in undisturbed areas

Properties and Qualities of the Orthents

Parent material: Mine spoil or earthy fill
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

802E—Orthents, loamy, hilly

Setting

Landform: Ground moraines
Position on the landform: Backslopes

Map Unit Composition

Orthents and similar soils: 85 percent
Dissimilar components: 15 percent

Components of Minor Extent

Similar soils:
- Soils that have slopes of less than 12 percent

Dissimilar components:
- Small areas of water (less than 2 acres in size)
- Small areas of natural soils

Properties and Qualities of the Orthents

Parent material: Mine spoil or earthy fill
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.2 to 2.0 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and moderate for concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 6e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

Osco Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Argiudolls
Taxadjunct features: The Osco soil in map unit 86C2 has a thinner dark surface layer than is defined as the range for the series. This difference, however, does not significantly affect the use and management of the soil. This soil is classified as a fine-silty, mixed, superactive, mesic Mollic Hapludalf.

Typical Pedon

Osco silt loam, 2 to 5 percent slopes; at an elevation of 855 feet; Carroll County, Illinois; 316 feet north and 88 feet west of the southeast corner of sec. 23, T. 24 N., R. 6 E.; USGS Lanark, Illinois, topographic quadrangle; lat. 42 degrees 03 minutes 13 seconds N. and long. 89 degrees 45 minutes 48 seconds W.; UTM Zone 16, 271330E 4659424N, NAD 83:

Ap—0 to 10 inches; very dark brown (10YR 2/2) silt loam, very dark grayish brown (10YR 3/2) dry; moderate fine granular structure; friable; common fine roots; slightly acid; abrupt smooth boundary.
A—10 to 14 inches; very dark grayish brown (10YR 3/2) silt loam, dark grayish brown (10YR 4/2) dry; moderate medium and coarse granular structure; friable; common fine roots; strongly acid; clear smooth boundary.
BA—14 to 20 inches; dark yellowish brown (10YR 3/4) and dark brown (10YR 3/3) silt loam, brown (10YR 5/3) dry; weak fine subangular blocky structure; friable; common fine roots; few distinct light brownish gray (10YR 6/2) (dry) silt coatings on faces of peds; strongly acid; clear smooth boundary.
Bt1—20 to 26 inches; brown (10YR 4/3) silty clay loam; moderate fine subangular blocky structure; friable; few fine roots; few distinct gray (10YR 6/1) (dry) silt coatings and common distinct dark brown (10YR 3/3) organo-clay films on faces of peds; strongly acid; clear smooth boundary.
Bt2—26 to 37 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium subangular blocky structure; firm; few fine roots; common distinct light brownish gray (10YR 6/2) (dry) silt coatings and many faint dark yellowish brown (10YR 4/4) clay films on faces of peds; common fine faint brown (10YR 5/3) masses of iron and manganese and common medium prominent strong brown (7.5YR 5/8) masses of iron accumulation; many fine prominent very dark gray (N 3/) and many fine distinct dark brown (7.5YR 3/2) masses of iron and manganese concretions; strongly acid; clear smooth boundary.
Bt3—37 to 45 inches; light yellowish brown (10YR 6/4) silty clay loam; moderate coarse subangular blocky structure; friable; few fine roots; many distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; common fine distinct light brownish gray (10YR 6/2) iron depletions and few medium prominent strong brown (7.5YR 5/8) masses of iron accumulation; strongly acid; gradual smooth boundary.
BC—45 to 55 inches; yellowish brown (10YR 5/4) and brown (10YR 4/3) silty clay loam; weak coarse angular blocky structure; friable; few fine distinct light brownish gray (10YR 6/2) iron depletions; strongly acid; gradual smooth boundary.
C—55 to 60 inches; yellowish brown (10YR 5/4) and brown (10YR 4/3) silt loam; massive; friable; many fine distinct yellowish brown (10YR 5/6) masses of iron accumulation and common medium distinct grayish brown (10YR 5/2) iron depletions; moderately acid.

Range in Characteristics

Thickness of the mollic epipedon or dark surface layer: 7 to 18 inches
Depth to the base of the diagnostic horizon: 40 to more than 66 inches

Ap or A horizon(s):
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—silt loam

Bt horizon(s):
Hue—10YR
Value—4 to 6
Chroma—3 or 4
Texture—silty clay loam or silt loam

C horizon(s):
Hue—10YR
Value—4 or 5
Chroma—3 to 6
Texture—silt loam or silty clay loam

86B—Osco silt loam, 2 to 5 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Summits and shoulders

Map Unit Composition

Osco and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have a seasonal high water table at a depth of less than 4 feet
- Soils that have a seasonal high water table at a depth of more than 6 feet
- Soils that have a thinner dark surface soil

Dissimilar soils:
- The somewhat poorly drained Ipava soils in the less sloping areas

Properties and Qualities of the Osco Soil

Parent material: Loess
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 4 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: 4 to 6 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

86C2—Osco silt loam, 5 to 10 percent slopes, eroded

Setting

Landform: Ground moraines
Position on the landform: Shoulders and backslopes

Map Unit Composition

Osco and similar soils: 100 percent

Components of Minor Extent

Similar soils:
- Soils that have slopes of less than 5 percent
- Soils that have carbonates at a depth of less than 48 inches

- Soils that have a seasonal high water table at a depth of more than 6 feet
- Soils in which the surface layer contains more clay and is lighter in color
- Soils that have a thicker dark surface soil

Properties and Qualities of the Osco Soil

Parent material: Loess
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 3 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: 4 to 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

Pillot Series

Taxonomic classification: Fine-silty over sandy or sandy-skeletal, mixed, superactive, mesic Typic Argiudolls
Taxadjunct features: The Pillot soil in map unit 159C2 has a thinner dark surface layer than is defined as the range for the series. This difference, however, does not significantly affect the use and management of the soil. This soil is classified as a fine-silty over sandy or sandy-skeletal, mixed, superactive, mesic Mollic Hapludalf.

Typical Pedon

Pillot silt loam, 2 to 5 percent slopes; at an elevation of about 557 feet; Logan County, Illinois; approximately 2,396 feet east and 30 feet north of the southwest corner of sec. 7, T. 21 N., R. 4 W.; USGS Delavan South, Illinois, topographic quadrangle; lat. 40 degrees 16 minutes 36 seconds N. and long. 89 degrees 35 seconds 37 seconds W.; UTM Zone 16, 279485E 4461698N, NAD 83:

Ap—0 to 8 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; moderate fine and medium granular structure; friable; many roots; slightly acid; abrupt smooth boundary.
A1—8 to 11 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; moderate fine and medium granular structure; friable; many roots; moderately acid; clear smooth boundary.
A2—11 to 15 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine and medium granular structure; friable; common roots; common distinct black (10YR 2/1) organic coatings on faces of peds; moderately acid; clear smooth boundary.

Bt1—15 to 19 inches; brown (10YR 4/3) silty clay loam; weak very fine subangular blocky structure; friable; common roots; common distinct dark brown (10YR 3/3) organo-clay films on faces of peds; moderately acid; clear smooth boundary.
Bt2—19 to 24 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate very fine and fine subangular blocky structure; firm; common roots; many distinct brown (10YR 4/3) clay films on faces of peds; moderately acid; clear smooth boundary.
Bt3—24 to 32 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine subangular blocky structure; firm; common roots; common distinct dark brown (10YR 3/3) organo-clay films on faces of peds; few black (5YR 2.5/1) stains; moderately acid; clear smooth boundary.
2BC—32 to 36 inches; dark yellowish brown (10YR 3/4) sandy clay loam; weak fine subangular blocky structure; firm; few roots; moderately acid; clear smooth boundary.
2C1—36 to 41 inches; yellowish brown (10YR 5/6) loamy sand; single grain; loose; moderately acid; abrupt smooth boundary.
2C2—41 to 60 inches; yellowish brown (10YR 5/6) loamy sand stratified with thin lenses of sandy loam; single grain; loose; moderately acid.

Range in Characteristics

Thickness of the mollic epipedon or dark surface soil: 7 to 19 inches
Thickness of the loess: 20 to 40 inches
Depth to carbonates: More than 60 inches

Ap or A horizon(s):
Hue—10YR
Value—2 or 3
Chroma—1 to 3
Texture—silt loam

Bt horizon(s):
Hue—7.5YR or 10YR
Value—3 to 5
Chroma—3 or 4
Texture—silty clay loam or silt loam

2BC horizon(s) (where present):
Hue—7.5YR or 10YR
Value—3 to 5
Chroma—3 or 4
Texture—sandy clay loam, loam, sandy loam, clay loam, fine sandy loam, loamy fine sand, or loamy sand

2C horizon(s):
Hue—10YR
Value—4 to 6
Chroma—4 to 6
Texture—loamy fine sand, loamy sand, or sand; thin strata of fine sand or sandy loam in some pedons

159B—Pillot silt loam, 2 to 5 percent slopes

Setting

Landform: Outwash plains, stream terraces, and ground moraines
Position on the landform: Summits and shoulders (fig. 6)

Map Unit Composition

Pillot and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have sand at a depth of more than 40 inches
- Soils that have more sand in the surface soil and in the upper part of the subsoil
- Soils that have a thinner dark surface soil
- Soils that have slopes of less than 2 percent

Dissimilar soils:
- The excessively drained Sparta soils in the more sloping areas

Properties and Qualities of the Pillot Soil

Parent material: Loess over eolian sands
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: 20 to 40 inches (strongly contrasting textural stratification)
Available water capacity: About 9.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 4 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

159C2—Pillot silt loam, 5 to 10 percent slopes, eroded

Setting

Landform: Stream terraces, outwash plains, and ground moraines
Position on the landform: Backslopes (fig. 6)

Map Unit Composition

Pillot and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils in which the surface layer is lighter colored and contains more clay
- Soils that have more sand in the surface layer and in the upper part of the subsoil
- Soils that have slopes of less than 5 percent

Dissimilar soils:
- The excessively drained Sparta soils in the more sloping areas

Properties and Qualities of the Pillot Soil

Parent material: Loess over eolian sands
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: 20 to 40 inches (strongly contrasting textural stratification)
Available water capacity: About 9.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 4 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

864—Pits, quarries

Setting

- This map unit consists of excavations from which limestone has been removed or is being removed.

Map Unit Composition

Pits, quarries: 90 percent
Dissimilar components: 10 percent

Components of Minor Extent

Dissimilar components:
- The well drained Lenzburg soils in disturbed areas
- Small areas of natural soils
- Stockpiles of crushed rock
- Areas covered by machinery
- Small areas of water (less than 2 acres in size)

Interpretive Groups

Land capability classification: None assigned
Prime farmland category: Not prime farmland
Hydric soil status: Not applicable

865—Pits, gravel

- This map unit consists of excavations from which sand and gravel have been removed or are being removed.

Map Unit Composition

Pits, gravel: 90 percent
Dissimilar components: 10 percent

Components of Minor Extent

Dissimilar components:
- The well drained, loamy Orthents in disturbed areas
- Small areas of natural soils
- Areas covered by machinery
- Small areas of water (less than 2 acres in size)

Interpretive Groups

Land capability classification: None assigned
Prime farmland category: Not prime farmland
Hydric soil status: Not applicable

Plano Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Argiudolls
Taxadjunct features: The Plano soils in map units 199C2 and 748C2 have a thinner dark surface layer than is defined as the range for the series. This difference, however, does not significantly affect the use and management of the soils. These soils are classified as fine-silty, mixed, superactive, mesic Mollic Hapludalfs.

Typical Pedon

Plano silt loam, 0 to 2 percent slopes; at an elevation of about 715 feet; Stark County, Illinois; about 1,200 feet south and 1,920 feet east of the northwest corner of sec. 13, T. 12 N., R. 7 E.; USGS Castleton topographic quadrangle; lat. 41 degrees 01 minute 45 seconds N. and long. 89 degrees 39 minutes 00 seconds W.; UTM Zone 16, 277210E 4545382N, NAD 83:

Ap—0 to 9 inches; very dark brown (10YR 2/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine granular structure; friable; few very fine roots; slightly acid; clear smooth boundary.

A—9 to 14 inches; dark brown (10YR 3/3) silt loam, brown (10YR 5/3) dry; moderate fine granular structure; friable; many very fine roots; slightly acid; clear smooth boundary.

Bt1—14 to 19 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine subangular blocky structure; friable; common very fine roots; many distinct dark brown (10YR 3/3) organo-clay films on faces of peds; slightly acid; clear smooth boundary.

Bt2—19 to 31 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium subangular blocky structure; friable; common very fine roots; many distinct brown (10YR 4/3) clay films on faces of peds; slightly acid; clear smooth boundary.

Bt3—31 to 43 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; friable; few very fine roots; many distinct brown (10YR 4/3) clay films on faces of peds; common distinct very pale brown (10YR 7/3) (dry) clay depletions on faces of peds; few fine faint yellowish brown (10YR 5/4) masses of iron and manganese accumulation in the matrix; slightly acid; clear smooth boundary.

Bt4—43 to 49 inches; dark yellowish brown (10YR 4/4) silt loam; moderate medium prismatic structure; friable; few very fine roots; many distinct brown (10YR 4/3) clay films on faces of peds; few distinct very pale brown (10YR 7/3) (dry) clay depletions on faces of peds; slightly acid; clear smooth boundary.
2Bt5—49 to 53 inches; dark yellowish brown (10YR 4/4) clay loam; weak medium prismatic structure; friable; few fine roots; many distinct brown (10YR 4/3) clay films on faces of peds; neutral; clear smooth boundary.
2BC—53 to 60 inches; brown (7.5YR 4/4) sandy loam; weak medium subangular blocky structure; very friable; many distinct dark yellowish brown (10YR 3/4) clay films bridging sand grains; about 5 percent gravel; neutral; gradual smooth boundary.
2C—60 to 72 inches; stratified, yellowish brown (10YR 5/6) and brown (7.5YR 4/4) sandy loam, loam, and loamy sand; massive; friable; about 12 percent gravel; neutral.

Range in Characteristics

Thickness of the loess: 40 to 60 inches
Thickness of the mollic epipedon or dark surface layer: 7 to 18 inches
Depth to the base of the diagnostic horizon: 44 to 70 inches
Other features: The Plano soils in map units 748A, 748B, and 748C2 have a sandy substratum within a depth of 60 inches. The characteristics of this layer are the same as those described for the 2C horizon(s) below.

Ap or A horizon(s):
Hue—10YR
Value—2 or 3
Chroma—1 to 3
Texture—silt loam

Bt horizon(s) (upper and middle parts):
Hue—10YR
Value—4 or 5
Chroma—3 or 4
Texture—silt loam or silty clay loam

Bt horizon(s) (lower part):
Hue—7.5YR or 10YR
Value—3 to 5
Chroma—2 to 4
Texture—silt loam or silty clay loam

2Bt or 2BC horizon(s):
Hue—7.5YR or 10YR
Value—3 to 5
Chroma—2 to 6
Texture—silt loam, loam, sandy loam, clay loam, or sandy clay loam
Content of rock fragments—0 to 15 percent

2C horizon(s):
Hue—7.5YR, 10YR, or 2.5Y
Value—3 to 5
Chroma—3 to 6
Texture—stratified loam, loamy sand, sandy loam, or silt loam; stratified sand and loamy sand in the sandy substratum phase
Content of rock fragments—3 to 15 percent

199A—Plano silt loam, 0 to 2 percent slopes

Setting

Landform: Outwash plains and stream terraces
Position on the landform: Talfs

Map Unit Composition

Plano and similar soils: 95 percent
Dissimilar soils: 5 percent

Components of Minor Extent

Similar soils:
- Soils that have less clay in the subsoil
- Soils that have less than 10 percent sand to a depth of more than 60 inches
- Soils that have more than 10 percent sand within a depth of 40 inches

Dissimilar soils:
- The somewhat poorly drained Elburn soils in the slightly lower positions
- The poorly drained Knight soils in depressions

Properties and Qualities of the Plano Soil

Parent material: Loess over outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 4 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

199B—Plano silt loam, 2 to 5 percent slopes

Setting

Landform: Outwash plains and stream terraces
Position on the landform: Summits and shoulders

Map Unit Composition

Plano and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have more sand in the underlying material
- Soils that have less clay in the subsoil
- Soils that have a thinner dark surface layer
- Soils that have less than 10 percent sand to a depth of more than 60 inches
- Soils that have more than 10 percent sand within a depth of 40 inches

Dissimilar soils:
- The somewhat poorly drained Elburn soils in the slightly lower positions

Properties and Qualities of the Plano Soil

Parent material: Loess over outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 5 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

199C2—Plano silt loam, 5 to 10 percent slopes, eroded

Setting

Landform: Outwash plains and stream terraces
Position on the landform: Shoulders and backslopes

Map Unit Composition

Plano and similar soils: 100 percent

Components of Minor Extent

Similar soils:
- Soils in which the surface layer contains more clay and is lighter in color
- Soils that have slopes of less than 5 percent
- Soils that have more sand in the surface layer and in the upper part of the subsoil
- Soils that have less than 10 percent sand to a depth of more than 60 inches
- Soils that have more than 10 percent sand within a depth of 40 inches

Properties and Qualities of the Plano Soil

Parent material: Loess over outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 4 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

748A—Plano silt loam, sandy substratum, 0 to 2 percent slopes

Setting

Landform: Outwash plains
Position on the landform: Talfs (fig. 8)

Map Unit Composition

Plano and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have sandy material starting at a depth of more than 60 inches
- Soils that have more clay in the underlying material
- Soils that have more rock fragments in the underlying material
- Soils that have a seasonal high water table within a depth of 6 feet

Dissimilar soils:
- The somewhat poorly drained Elburn and Ipava soils in the lower positions
- The poorly drained Knight soils in depressions

Properties and Qualities of the Plano Soil

Parent material: Loess over sandy outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: 40 to 60 inches (strongly contrasting textural stratification)
Available water capacity: About 10.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 4 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete

Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

748B—Plano silt loam, sandy substratum, 2 to 5 percent slopes

Setting

Landform: Outwash plains
Position on the landform: Summits, shoulders, and backslopes (fig. 8)

Map Unit Composition

Plano and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have more clay in the underlying material
- Soils that have more rock fragments in the underlying material
- Soils that have a thinner dark surface soil
- Soils that have sandy material starting at a depth of more than 60 inches
- Soils that have sandy material within a depth of 40 inches

Dissimilar soils:
- The somewhat poorly drained Elburn and Ipava soils in the lower positions

Properties and Qualities of the Plano Soil

Parent material: Loess over sandy outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: 40 to 60 inches (strongly contrasting textural stratification)
Available water capacity: About 10.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 4 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

748C2—Plano silt loam, sandy substratum, 5 to 10 percent slopes, eroded

Setting

Landform: Outwash plains
Position on the landform: Shoulders and backslopes

Map Unit Composition

Plano and similar soils: 100 percent

Components of Minor Extent

Similar soils:
- Soils that have more clay in the underlying material
- Soils that have more rock fragments in the underlying material
- Soils that have slopes of less than 5 percent
- Soils in which the surface layer has more clay and is lighter in color
- Soils that have sandy material at a depth of less than 40 inches

Properties and Qualities of the Plano Soil

Parent material: Loess over sandy outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: 40 to 60 inches (strongly contrasting textural stratification)
Available water capacity: About 10.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

7199A—Plano silt loam, 0 to 2 percent slopes, rarely flooded

Setting

Landform: Flood-plain steps (fig. 5)

Map Unit Composition

Plano and similar soils: 95 percent
Dissimilar soils: 5 percent

Components of Minor Extent

Similar soils:
- Soils that have less clay in the subsoil
- Soils that have slopes of more than 2 percent
- Soils that have more than 10 percent sand within a depth of 40 inches
- Soils that have less than 10 percent sand to a depth of more than 60 inches

Dissimilar soils:
- The somewhat poorly drained Elburn soils in the slightly lower positions
- The somewhat poorly drained Lawson soils that are frequently flooded; in the lower positions
- The poorly drained Sawmill soils on flood plains

Properties and Qualities of the Plano Soil

Parent material: Loess over loamy and sandy outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 4 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Frequency and most likely period of flooding: Rare, November to June
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Princeton Series

Taxonomic classification: Fine-loamy, mixed, active, mesic Typic Hapludalfs

Typical Pedon

Princeton fine sandy loam, 2 to 5 percent slopes; at an elevation of about 530 feet; Vigo County, Indiana; about 2,380 feet west and 360 feet south of the northeast corner of sec. 5, T. 10 N., R. 9 W.; USGS Pimento, Indiana, topographic quadrangle; lat. 39 degrees 20 minutes 45 seconds N. and long. 87 degrees 26 minutes 00 seconds W.; UTM Zone 16, 462658E 4355249N, NAD 83:

Ap—0 to 8 inches; brown (10YR 4/3) fine sandy loam, grayish brown (10YR 5/2) dry; weak fine granular structure; very friable; many medium roots; neutral; abrupt smooth boundary.

Bt1—8 to 11 inches; strong brown (7.5YR 5/6) fine sandy loam; weak thick platy structure parting to weak fine and very fine subangular blocky; friable; common medium roots; common distinct very pale brown (10YR 7/3) silt coatings on faces of peds; few distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; slightly acid; clear wavy boundary.

Bt2—11 to 26 inches; brown (7.5YR 4/4) sandy clay loam; moderate medium subangular blocky structure; firm; common medium and fine roots; many distinct reddish brown (5YR 4/4) clay films on faces of peds; strongly acid; gradual wavy boundary.
Bt3—26 to 41 inches; yellowish red (5YR 5/6) sandy loam; weak coarse subangular blocky structure; friable; few fine roots; common distinct reddish brown (5YR 4/4) clay films on faces of peds; very strongly acid; gradual wavy boundary.
E and Bt—41 to 60 inches; brown (7.5YR 4/4) loamy sand (E); weak coarse subangular blocky structure; very friable; common wavy discontinuous strong brown (7.5YR 5/6) fine sandy loam lamellae (Bt); strongly acid; gradual wavy boundary.
CB—60 to 80 inches; strong brown (7.5YR 5/6) and brown (7.5YR 4/4), stratified loamy fine sand and fine sand; single grain; loose; strongly acid.

Range in Characteristics

Depth to the base of the diagnostic horizon: 40 to more than 80 inches

Ap or A horizon(s):
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—fine sandy loam or fine sand

Bt horizon(s):
Hue—5YR to 10YR
Value—4 or 5
Chroma—4 to 6
Texture—sandy clay loam, fine sandy loam, or loam with thin layers of sandy loam or loamy fine sand

E and Bt horizon(s):
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—4 to 6
Texture—sand, fine sand, loamy fine sand, or loamy sand; lamellae and/or bands of sandy loam, loam, or fine sandy loam

BC, CB, or C horizon(s):
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—3 to 6
Texture—stratified; commonly fine sand, loamy fine sand, fine sandy loam, or loamy sand with thin strata of very fine sand or loam

861B2—Princeton-Bloomfield fine sands, 1 to 7 percent slopes, eroded

Setting

Landform: Dunes on ground moraines
Position on the landform: Princeton—shoulders and backslopes; Bloomfield—summits and shoulders (fig. 5)

Map Unit Composition

Princeton and similar soils: 45 percent
Bloomfield and similar soils: 40 percent
Dissimilar soils: 15 percent

Components of Minor Extent

Similar soils:
- Soils that have less sand and more clay in the surface layer

Dissimilar soils:
- The well drained Middletown and Thebes soils in positions similar to those of the Princeton and Bloomfield soils
- The somewhat poorly drained Stronghurst and Lawndale soils in the less sloping positions

Properties and Qualities of the Princeton Soil

Parent material: Eolian deposits
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 1.5 percent
Shrink-swell potential: Low
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Very high

Properties and Qualities of the Bloomfield Soil

Parent material: Eolian sands
Drainage class: Somewhat excessively drained
Slowest permeability within a depth of 40 inches: Moderately rapid
Permeability below a depth of 60 inches: Moderately rapid or rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 1.5 percent
Shrink-swell potential: Low
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Low
Hazard of corrosion: Low for steel and high for concrete
Surface runoff class: Very low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Very high

Interpretive Groups

Land capability classification: Princeton—2e; Bloomfield—3s
Prime farmland category: Prime farmland
Hydric soil status: Princeton—not hydric; Bloomfield—not hydric

861D2—Princeton-Bloomfield fine sands, 7 to 15 percent slopes, eroded

Setting

Landform: Dunes on ground moraines
Position on the landform: Princeton—shoulders and backslopes; Bloomfield—summits and shoulders (fig. 5)

Map Unit Composition

Princeton and similar soils: 45 percent
Bloomfield and similar soils: 40 percent
Dissimilar soils: 15 percent

Components of Minor Extent

Similar soils:
- Soils that have less sand and more clay in the surface layer

Dissimilar soils:
- The somewhat poorly drained Lawndale and Stronghurst soils in the less sloping positions
- The well drained Middletown and Thebes soils in positions similar to those of the Princeton and Bloomfield soils

Properties and Qualities of the Princeton Soil

Parent material: Eolian deposits
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 1.5 percent
Shrink-swell potential: Low
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Very high

Properties and Qualities of the Bloomfield Soil

Parent material: Eolian sands
Drainage class: Somewhat excessively drained
Slowest permeability within a depth of 40 inches: Moderately rapid
Permeability below a depth of 60 inches: Moderately rapid or rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 1.5 percent
Shrink-swell potential: Low
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Low

Hazard of corrosion: Low for steel and high for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Very high

Interpretive Groups

Land capability classification: Princeton—4e; Bloomfield—4e
Prime farmland category: Prime farmland
Hydric soil status: Princeton—not hydric; Bloomfield—not hydric

861F—Princeton-Bloomfield fine sands, 15 to 35 percent slopes

Setting

Landform: Dunes on ground moraines
Position on the landform: Backslopes (fig. 5)

Map Unit Composition

Princeton and similar soils: 45 percent
Bloomfield and similar soils: 40 percent
Dissimilar soils: 15 percent

Components of Minor Extent

Similar soils:
- Soils that have more clay and less sand in the surface layer
- Soils that have slopes of less than 15 percent

Dissimilar soils:
- The well drained Middletown soils in the less sloping positions
- The well drained Thebes soils in positions similar to those of the Princeton and Bloomfield soils
- The well drained Hickory and Sylvan soils in positions downslope from those of the Princeton and Bloomfield soils

Properties and Qualities of the Princeton Soil

Parent material: Eolian deposits
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Low
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: High
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Very high

Properties and Qualities of the Bloomfield Soil

Parent material: Eolian sands
Drainage class: Somewhat excessively drained

Slowest permeability within a depth of 40 inches: Moderately rapid
Permeability below a depth of 60 inches: Moderately rapid or rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Low
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Potential for frost action: Low
Hazard of corrosion: Low for steel and high for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Very high

Interpretive Groups

Land capability classification: Princeton—6e; Bloomfield—6e
Prime farmland category: Not prime farmland
Hydric soil status: Princeton—not hydric; Bloomfield—not hydric

Proctor Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Argiudolls
Taxadjunct features: The Proctor soils in map units 148C2 and 148D2 have a thinner dark surface layer than is defined as the range for the series. This difference, however, does not significantly affect the use and management of the soils. These soils are classified as fine-silty, mixed, superactive, mesic Mollic Hapludalfs.

Typical Pedon

Proctor silt loam, 0 to 2 percent slopes; at an elevation of about 705 feet; Peoria County, Illinois; about 204 feet north and 2,460 feet west of the southeast corner of sec. 3, T. 11 N., R. 6 E.; USGS Princeville topographic quadrangle; lat. 40 degrees 57 minutes 37 seconds N. and long. 89 degrees 48 minutes 08 seconds W.; UTM Zone 16, 264168E 4538122N, NAD 83:

Ap—0 to 8 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak fine granular structure; friable; common very fine roots; moderately acid; clear smooth boundary.
A—8 to 11 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine granular structure; friable; common very fine roots; neutral; clear smooth boundary.
Bt1—11 to 16 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate very fine subangular blocky structure; friable; common very fine roots; common distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; moderately acid; clear smooth boundary.
Bt2—16 to 23 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate very fine and fine subangular blocky structure; friable; common very fine roots; many distinct brown (10YR 4/3) clay films on faces of peds; moderately acid; clear smooth boundary.
Bt3—23 to 28 inches; yellowish brown (10YR 5/4) silty clay loam; moderate fine subangular blocky structure; friable; common very fine roots; many distinct brown (10YR 4/3) clay films on faces of peds; moderately acid; clear smooth boundary.
2Bt4—28 to 33 inches; yellowish brown (10YR 5/4) loam; moderate medium subangular blocky structure; friable; few very fine roots; common faint dark

yellowish brown (10YR 4/4) clay films on faces of peds; moderately acid; clear smooth boundary.
2Bt5—33 to 46 inches; strong brown (7.5YR 5/6), stratified loam and sandy loam; weak coarse subangular blocky structure; very friable; few very fine roots; common faint brown (7.5YR 4/4) clay films on faces of peds; slightly acid; gradual smooth boundary.
2C—46 to 60 inches; strong brown (7.5YR 5/6), stratified sandy loam and loamy sand; massive; very friable; slightly acid.

Range in Characteristics

Thickness of the loess: 20 to 40 inches
Thickness of the mollic epipedon or dark surface layer: 7 to 18 inches
Depth to the base of the diagnostic horizon: 40 to 65 inches
Other features: The Proctor soil in map unit 374A has a sandy substratum within a depth of 60 inches. The characteristics of this layer are the same as those described for the 2C horizon(s) below.

Ap, A, or AB horizon(s):
Hue—10YR
Value—2 or 3
Chroma—1 to 3
Texture—silt loam

Bt or BA horizon(s):
Hue—7.5YR or 10YR
Value—3 to 6
Chroma—3 to 6
Texture—silty clay loam or silt loam

2Bt or 2BC horizon(s):
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—3 to 6
Texture—silty clay loam, silt loam, clay loam, sandy clay loam, loam, or sandy loam or stratified with these textures
Content of rock fragments—0 to 10 percent

2C horizon(s):
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—3 to 6
Texture—sandy loam, loam, or silt loam with strata of loamy sand; stratified coarse sand and loamy sand in the sandy substratum phase
Content of rock fragments—0 to 15 percent

148B—Proctor silt loam, 2 to 5 percent slopes

Setting

Landform: Outwash plains and stream terraces
Position on the landform: Summits and shoulders

Map Unit Composition

Proctor and similar soils: 95 percent
Dissimilar soils: 5 percent

Components of Minor Extent

Similar soils:
- Soils that have more sand in the underlying material
- Soils that have more sand in the surface soil and in the upper part of the subsoil
- Soils that have less sand in the lower part of the subsoil

Dissimilar soils:
- The somewhat poorly drained Brenton soils in the slightly lower positions

Properties and Qualities of the Proctor Soil

Parent material: Loess over outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 4 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

148C2—Proctor silt loam, 5 to 10 percent slopes, eroded

Setting

Landform: Outwash plains and stream terraces
Position on the landform: Backslopes

Map Unit Composition

Proctor and similar soils: 100 percent

Components of Minor Extent

Similar soils:
- Soils that have more sand in the surface layer and in the upper part of the subsoil
- Soils in which the surface layer has more clay and is lighter in color
- Soils that have a thicker dark surface soil
- Soils that have more sand in the underlying material
- Soils that have slopes of less than 5 percent

Properties and Qualities of the Proctor Soil

Parent material: Loess over outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches

Available water capacity: About 9.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.5 to 3.5 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

148D2—Proctor silt loam, 10 to 18 percent slopes, eroded

Setting

Landform: Outwash plains and stream terraces
Position on the landform: Backslopes

Map Unit Composition

Proctor and similar soils: 100 percent

Components of Minor Extent

Similar soils:
- Soils that have more sand in the surface layer and in the upper part of the subsoil
- Soils that have more clay in the surface layer
- Soils that have slopes of less than 10 percent
- Soils that have a thicker dark surface soil

Properties and Qualities of the Proctor Soil

Parent material: Loess over outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.5 to 3.5 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

374A—Proctor silt loam, sandy substratum, 0 to 2 percent slopes

Setting

Landform: Outwash plains and stream terraces
Position on the landform: Talfs

Map Unit Composition

Proctor and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have more clay in the underlying material
- Soils that have a seasonal high water table at a depth of 4 to 6 feet
- Soils that have more sand throughout
- Soils that have less than 10 percent sand to a depth of more than 40 inches

Dissimilar soils:
- The somewhat poorly drained Elburn soils in the slightly lower positions

Properties and Qualities of the Proctor Soil

Parent material: Loess over sandy outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Rapid or very rapid
Depth to restrictive feature: 40 to 60 inches (strongly contrasting textural stratification)
Available water capacity: About 9.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 4 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

7148A—Proctor silt loam, 0 to 2 percent slopes, rarely flooded

Setting

Landform: Flood-plain steps (fig. 5)

Map Unit Composition

Proctor and similar soils: 95 percent
Dissimilar soils: 5 percent

Components of Minor Extent

Similar soils:
- Soils that have more sand in the surface soil and in the upper part of the subsoil
- Soils that have a lighter colored surface soil
- Soils that have less sand in the lower part of the subsoil
- Soils that have less sand in the underlying material

Dissimilar soils:
- The somewhat poorly drained Tice and Riley soils in the slightly lower positions on flood plains
- The poorly drained Sawmill soils in swales on flood plains

Properties and Qualities of the Proctor Soil

Parent material: Loess or other silty material over outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 4 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Frequency and most likely period of flooding: Rare, November to June
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Radford Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Fluvaquentic Hapludolls

Typical Pedon

Radford silt loam, 0 to 2 percent slopes, frequently flooded; at an elevation of 567 feet; Cass County, Illinois; 2,700 feet east and 1,320 feet south of the northwest corner of sec. 2, T. 17 N., R. 9 W.; USGS Ashland, Illinois, topographic quadrangle; lat. 39 degrees 57 minutes 24 seconds N. and long. 90 degrees 04 minutes 47 seconds W.; UTM Zone 15, 749465E 442702N, NAD 83:

Ap—0 to 7 inches; very dark grayish brown (10YR 3/2) silt loam, brown (10YR 5/3) dry; weak medium subangular blocky structure parting to moderate fine and medium granular; friable; few very fine roots; neutral; clear smooth boundary.
A—7 to 12 inches; very dark grayish brown (10YR 3/2) silt loam, brown (10YR 5/3) dry; weak medium subangular blocky structure; friable; few very fine roots; neutral; clear smooth boundary.
C—12 to 33 inches; dark grayish brown (10YR 4/2) and very dark grayish brown (10YR 3/2) silt loam with common thin grayish brown (10YR 5/2) and brown (10YR 5/3) lenses; massive; friable; few very fine roots; common faint very dark grayish brown (10YR 3/2) organic coatings in worm channels; few fine rounded black (7.5YR 2.5/1) weakly cemented manganese concretions with diffuse boundaries throughout; neutral; clear smooth boundary.
Ab1—33 to 42 inches; very dark gray (10YR 3/1) silt loam; weak fine subangular blocky structure parting to moderate medium granular; friable; few very fine roots; few fine rounded black (7.5YR 2.5/1) weakly cemented manganese concretions with diffuse boundaries lining root channels and pores; few fine prominent strong brown (7.5YR 5/8) masses of iron accumulation in the matrix; slightly alkaline; gradual smooth boundary.
Ab2—42 to 72 inches; very dark gray (10YR 3/1) silt loam; moderate fine subangular blocky structure; friable; few very fine roots; few distinct gray (10YR 6/1) (dry) clay depletions on faces of peds; few fine rounded black (7.5YR 2.5/1) weakly cemented manganese concretions with diffuse boundaries lining root channels and pores; few fine prominent strong brown (7.5YR 5/8) masses of iron accumulation in the matrix; slightly alkaline; clear smooth boundary.
Bgb—72 to 80 inches; grayish brown (10YR 5/2) silt loam; moderate medium prismatic structure parting to weak medium subangular blocky; friable; few very fine roots; common distinct very dark gray (10YR 3/1) organic coatings lining root channels and pores; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches
Depth to the base of the diagnostic horizon: 10 to 20 inches
Depth to the buried soil: 20 to 40 inches

Ap or A horizon(s):
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—silt loam

C horizon(s):
Hue—10YR
Value—2 to 6
Chroma—1 to 4
Texture—silt loam with thin strata of silty clay loam

Ab horizon(s):
Hue—10YR or N
Value—2 or 3
Chroma—0 or 1
Texture—silt loam, silty clay loam, clay loam, or loam

Bgb horizon(s) (where present):
Hue—10YR, 2.5Y, 5Y, or N
Value—3 to 6

Chroma—0 to 2
Texture—silt loam, silty clay loam, clay loam, or loam

3074A—Radford silt loam, 0 to 2 percent slopes, frequently flooded

Setting

Landform: Flood plains

Map Unit Composition

Radford and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have a buried soil at a depth of more than 40 inches
- Soils that have a buried soil at a depth of less than 20 inches
- Soils that have a lighter colored surface soil
- Soils that are subject to occasional flooding

Dissimilar soils:
- The poorly drained Sawmill soils in swales

Properties and Qualities of the Radford Soil

Parent material: Alluvium
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 4 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: 1 to 2 feet below the surface
Frequency and most likely period of flooding: Frequent, November to June
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Prime farmland where protected from flooding or not frequently flooded during the growing season
Hydric soil status: Not hydric

8074A—Radford silt loam, 0 to 2 percent slopes, occasionally flooded

Setting

Landform: Flood plains

Map Unit Composition

Radford and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have a buried soil at a depth of more than 40 inches
- Soils that have a buried soil at a depth of less than 20 inches
- Soils that have a lighter colored surface soil
- Soils that are subject to frequent flooding

Dissimilar soils:
- The poorly drained Sawmill soils in swales

Properties and Qualities of the Radford Soil

Parent material: Alluvium
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.5 to 5.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: 1 to 2 feet below the surface
Frequency and most likely period of flooding: Occasional, November to June
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Riley Series

Taxonomic classification: Fine-loamy over sandy or sandy-skeletal, mixed, superactive, mesic Fluvaquentic Hapludolls

Typical Pedon

Riley silty clay loam, 0 to 2 percent slopes, occasionally flooded; at an elevation of 470 feet; Adams County, Illinois; 1,595 feet east and 340 feet south of the northwest corner of sec. 2, T. 3 S., R. 9 W.; USGS Quincy Southwest, Illinois, topographic quadrangle; lat. 39 degrees 50 minutes 52 seconds N. and long. 91 degrees 24 minutes 41 seconds W.; UTM Zone 15, 635918E 4412075N, NAD 83:

Ap—0 to 7 inches; very dark grayish brown (10YR 3/2) silty clay loam, gray (10YR 5/1) dry; moderate fine granular structure; firm; common fine roots throughout; very few distinct very dark gray (10YR 3/1) organic coatings on faces of peds; slightly acid; abrupt smooth boundary.

A—7 to 13 inches; very dark grayish brown (10YR 3/2) silty clay loam, gray (10YR 5/1) dry; moderate fine and medium subangular blocky structure; firm; common fine roots throughout; moderately acid; abrupt smooth boundary.

Bw1—13 to 19 inches; dark grayish brown (10YR 4/2) silty clay loam; weak coarse subangular blocky structure; firm; common fine roots throughout and common very fine and fine roots in cracks; very few distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; many fine faint brown (7.5YR 4/3) masses of iron and manganese accumulation throughout; moderately acid; clear smooth boundary.
Bw2—19 to 27 inches; grayish brown (10YR 5/2) loam; moderate coarse subangular blocky structure; firm; common very fine and fine roots in cracks; many fine and medium prominent dark yellowish brown (10YR 3/6) masses of iron and manganese accumulation throughout; moderately acid; clear smooth boundary.
2Bw3—27 to 36 inches; brown (10YR 4/3) loamy sand; weak coarse subangular blocky structure; friable; few fine faint dark yellowish brown (10YR 4/4) masses of iron and manganese accumulation throughout; moderately acid; clear smooth boundary.
2C—36 to 60 inches; brown (10YR 5/3) sand; single grain; loose; neutral.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches
Depth to the base of the diagnostic horizon: 18 to 40 inches

Ap or A horizon(s):
Hue—10YR
Value—2 or 3
Chroma—1 to 3
Texture—loam

Bw horizon(s):
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 4
Texture—silty clay loam, clay loam, sandy clay loam, loam, or silt loam

2C horizon(s):
Hue—10YR
Value—4 to 7
Chroma—2 to 4
Texture—loamy sand, sand, or loamy fine sand; strata of fine sandy loam, silt loam, sandy loam, or loam in some pedons

8452A—Riley loam, 0 to 2 percent slopes, occasionally flooded

Setting

Landform: Flood plains

Map Unit Composition

Riley and similar soils: 85 percent
Dissimilar soils: 15 percent

Components of Minor Extent

Similar soils:
- Soils that have less sand throughout
- Soils that have less sand in the surface layer and in the subsoil
- Soils that have sandy material starting at a depth of more than 40 inches

Dissimilar soils:
- The well drained Landes and Proctor soils in the slightly higher positions
- The somewhat poorly drained Tice soils that are frequently flooded; in the lower positions
- The poorly drained Sawmill soils in swales

Properties and Qualities of the Riley Soil

Parent material: Alluvium over sandy outwash
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: 20 to 40 inches (strongly contrasting textural stratification)
Available water capacity: About 7.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 4 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: 1 to 2 feet below the surface
Frequency and most likely period of flooding: Occasional, November to June
Potential for frost action: Moderate
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

Ross Series

Taxonomic classification: Fine-loamy, mixed, superactive, mesic Cumulic Hapludolls

Typical Pedon

Ross silt loam, 0 to 2 percent slopes, frequently flooded; at an elevation of 590 feet; Tazewell County, Illinois; 1,490 feet west and 232 feet north of the southeast corner of sec. 28, T. 23 N., R. 3 W.; USGS Hopedale, Illinois, topographic quadrangle; lat. 40 degrees 24 minutes 39 seconds N. and long. 89 degrees 26 minutes 32 seconds W.; UTM Zone 16, 292769E 4476226N, NAD 83:

Ap—0 to 8 inches; very dark gray (10YR 3/1) silt loam, dark grayish brown (10YR 4/2) dry; weak fine granular structure; friable; common very fine roots; neutral; clear smooth boundary.

A—8 to 13 inches; very dark grayish brown (10YR 3/2) silt loam, dark grayish brown (10YR 4/2) dry; weak fine subangular blocky structure parting to weak fine granular; friable; common very fine and fine roots; common faint very dark gray (10YR 3/1) organic coatings on faces of peds; neutral; clear smooth boundary.

Bw1—13 to 27 inches; very dark grayish brown (10YR 3/2) loam, dark grayish brown (10YR 4/2) dry; weak fine subangular blocky structure; friable; few very fine roots; few faint very dark gray (10YR 3/1) organic coatings on faces of peds; neutral; gradual smooth boundary.

Bw2—27 to 34 inches; dark brown (10YR 3/3) loam, brown (10YR 4/3) dry; weak fine and medium subangular blocky structure; friable; few very fine and coarse roots; common distinct very dark gray (10YR 3/1) and few faint very dark grayish brown (10YR 3/2) organic coatings on faces of peds; neutral; gradual smooth boundary.

Bw3—34 to 43 inches; brown (10YR 4/3) loam; weak medium subangular blocky structure; very friable; few very fine roots; many distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; neutral; gradual smooth boundary.
C1—43 to 54 inches; brown (10YR 4/3) sandy loam; massive; very friable; few very fine and fine roots; neutral; gradual smooth boundary.
C2—54 to 60 inches; brown (10YR 4/3) sandy loam; massive; very friable; few fine faint grayish brown (10YR 5/2) iron depletions; 5 percent gravel; neutral.

Range in Characteristics

Thickness of the mollic epipedon: 24 to 40 inches
Depth to the base of the diagnostic horizon: 24 to 45 inches
Depth to carbonates: More than 45 inches

Ap or A horizon(s):
Hue—10YR
Value—2 or 3
Chroma—1 to 3
Texture—silt loam

Bw horizon(s):
Hue—10YR
Value—2 to 5
Chroma—1 to 4
Texture—commonly loam or silt loam; less commonly sandy loam, clay loam, or silty clay loam

C horizon(s):
Hue—2.5Y, 10YR, or 7.5YR
Value—4 to 6
Chroma—1 to 4
Texture—sandy loam, loam, silt loam, or sandy clay loam; strata containing more sand are below a depth of 40 inches in some pedons

3073A—Ross silt loam, 0 to 2 percent slopes, frequently flooded

Setting

Landform: Flood plains

Map Unit Composition

Ross and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have a lighter colored surface soil
- Soils that have a dark surface soil less than 24 inches thick
- Soils that have less sand throughout
- Soils that have more sand throughout

Dissimilar soils:
- The somewhat poorly drained Lawson soils in the slightly lower positions
- The poorly drained Sawmill soils in swales

Properties and Qualities of the Ross Soil

Parent material: Loamy alluvium
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 4 percent
Shrink-swell potential: Low
Apparent seasonal high water table: 4 to 6 feet below the surface
Frequency and most likely period of flooding: Frequent, November to June
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Prime farmland where protected from flooding or not frequently flooded during the growing season
Hydric soil status: Not hydric

Rozetta Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Hapludalfs
Taxadjunct features: The Rozetta soil in map unit 279B2 has redoximorphic features higher in the profile than is defined as the range for the series. This difference, however, does not significantly affect the use and management of the soil. This soil is classified as a fine-silty, mixed, superactive, mesic Oxyaquic Hapludalf.

Typical Pedon

Rozetta silt loam, 0 to 2 percent slopes; at an elevation of 890 feet; Stephenson County, Illinois; 150 feet south and 500 feet east of the center of sec. 18, T. 27 N., R. 6 E.; USGS Pearl City, Illinois, topographic quadrangle; lat. 42 degrees 20 minutes 00 seconds N. and long. 89 degrees 51 minutes 19 seconds W.; UTM Zone 16, 264752E 4690738N, NAD 83:

A—0 to 4 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 6/1) dry; weak medium granular structure; friable; many fine roots throughout; moderately acid; clear wavy boundary.
E—4 to 11 inches; dark grayish brown (10YR 4/2) silt loam; weak medium platy structure; friable; many fine roots throughout; strongly acid; clear smooth boundary.
BE—11 to 14 inches; brown (10YR 4/3) silty clay loam; weak medium subangular blocky structure; firm; many fine roots between peds; few faint brown (10YR 5/3) (dry) clay depletions on faces of peds; strongly acid; clear smooth boundary.
Bt1—14 to 21 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine and medium subangular blocky structure; firm; many fine roots between peds; many faint brown (10YR 5/3) clay films on faces of peds; strongly acid; clear smooth boundary.
Bt2—21 to 39 inches; brown (10YR 5/3) silty clay loam; moderate medium and coarse subangular blocky structure; firm; common fine roots; many distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; common faint pale brown (10YR

6/3) (dry) silt coatings on faces of peds; common medium faint light yellowish brown (10YR 6/4) and brown (10YR 4/3) masses of iron and manganese accumulations in the matrix; few medium faint grayish brown (10YR 5/2) iron depletions in the matrix; strongly acid; clear smooth boundary.

Bt3—39 to 50 inches; yellowish brown (10YR 5/4) silty clay loam; weak coarse subangular blocky structure; firm; common fine roots; few faint brown (10YR 4/3) clay films on faces of peds; common medium faint pale brown (10YR 6/3) and common medium distinct grayish brown (10YR 5/2) iron depletions in the matrix; moderately acid; clear smooth boundary.

C—50 to 60 inches; yellowish brown (10YR 5/4) silt loam; massive; friable; common medium distinct dark grayish brown (10YR 4/2) iron depletions in the matrix; slightly acid.

Range in Characteristics

Depth to the base of the diagnostic horizon: 42 to 72 inches

Other features: The Rozetta soil in map unit 279B2 has a till substratum within a depth of 80 inches. The characteristics of this layer are the same as those described for the 2C horizon(s) below.

Ap or A horizon(s):
- Hue—10YR
- Value—3 to 5
- Chroma—1 to 3
- Texture—silt loam or silty clay loam

E horizon(s) (where present):
- Hue—10YR
- Value—4 to 6
- Chroma—2 or 3
- Texture—silt loam

Bt horizon(s):
- Hue—10YR or 7.5YR
- Value—4 to 6
- Chroma—3 to 6
- Texture—silty clay loam

C horizon(s):
- Hue—10YR
- Value—4 to 6
- Chroma—2 to 6
- Texture—silt loam or silty clay loam

2C horizon(s) (where present):
- Hue—10YR or 2.5Y
- Value—4 or 5
- Chroma—3 or 4
- Texture—loam or clay loam
- Content of rock fragments—0 to 10 percent

279A—Rozetta silt loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines

Position on the landform: Talfs

Map Unit Composition

Rozetta and similar soils: 95 percent
Dissimilar soils: 5 percent

Components of Minor Extent

Similar soils:
- Soils that have a seasonal high water table at a depth of less than 4 feet
- Soils that have slopes of more than 2 percent
- Soils that have more sand in the lower part of the subsoil and in the underlying material
- Soils that have more clay in the subsoil

Dissimilar soils:
- The somewhat poorly drained Keomah soils in the slightly lower positions
- The poorly drained Denny soils in depressions

Properties and Qualities of the Rozetta Soil

Parent material: Loess
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: 4 to 6 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

279B—Rozetta silt loam, 2 to 5 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Summits and shoulders

Map Unit Composition

Rozetta and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have a thinner surface soil
- Soils that do not have a seasonal high water table within a depth of 6 feet
- Soils that have more sand in the lower part of the subsoil and in the underlying material

- Soils that have more clay in the subsoil
- Soils that have a seasonal high water table at a depth of less than 4 feet

Dissimilar soils:

- The somewhat poorly drained Keomah soils in the less sloping areas

Properties and Qualities of the Rozetta Soil

Parent material: Loess
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: 4 to 6 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

279B2—Rozetta silt loam, 2 to 5 percent slopes, eroded

Setting

Landform: Ground moraines
Position on the landform: Summits, shoulders, and backslopes (fig. 4)

Map Unit Composition

Rozetta and similar soils: 100 percent

Components of Minor Extent

Similar soils:

- Soils that have a thicker surface soil
- Soils that have a seasonal high water table at a depth of more than 3.5 feet
- Soils that have less sand in the underlying material
- Soils that have a seasonal high water table at a depth of less than 2 feet
- Soils that have more than 7 percent sand at a depth of less than 60 inches

Properties and Qualities of the Rozetta Soil

Parent material: Very deep loess over till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate

Perched seasonal high water table: 2.0 to 3.5 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

279C2—Rozetta silt loam, 5 to 10 percent slopes, eroded

Setting

Landform: Ground moraines
Position on the landform: Shoulders and backslopes

Map Unit Composition

Rozetta and similar soils: 100 percent

Components of Minor Extent

Similar soils:
- Soils that have slopes of less than 5 percent
- Soils that do not have a seasonal high water table within a depth of 6 feet
- Soils that have more clay in the surface layer
- Soils that have more clay in the underlying material
- Soils that have more sand in the lower part of the subsoil and in the underlying material

Properties and Qualities of the Rozetta Soil

Parent material: Loess
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 2 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: 4 to 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

279C3—Rozetta silty clay loam, 5 to 10 percent slopes, severely eroded

Setting

Landform: Ground moraines
Position on the landform: Shoulders and backslopes

Map Unit Composition

Rozetta and similar soils: 100 percent

Components of Minor Extent

Similar soils:
- Soils that do not have a seasonal high water table within a depth of 6 feet
- Soils that have less clay in the surface layer
- Soils that have more clay in the underlying material
- Soils that have more sand in the lower part of the subsoil and in the underlying material
- Soils that have slopes of more than 10 percent

Properties and Qualities of the Rozetta Soil

Parent material: Loess
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.2 to 1.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: 4 to 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 4e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

279D2—Rozetta silt loam, 10 to 18 percent slopes, eroded

Setting

Landform: Ground moraines
Position on the landform: Shoulders and backslopes

Map Unit Composition

Rozetta and similar soils: 100 percent

Components of Minor Extent

Similar soils:
- Soils that have slopes of less than 10 percent
- Soils that have a seasonal high water table at a depth of more than 6 feet
- Soils that have more clay in the surface layer
- Soils that have more clay in the underlying material
- Soils that have a thicker surface soil
- Soils that have more sand in the lower part of the subsoil and in the underlying material

Properties and Qualities of the Rozetta Soil

Parent material: Loess
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 2 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: 4 to 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

Rushville Series

Taxonomic classification: Fine, smectitic, mesic Typic Albaqualfs

Typical Pedon

Rushville silt loam, 0 to 2 percent slopes; at an elevation of 695 feet; Adams County, Illinois; 2,150 feet east and 250 feet south of the northwest corner of sec. 23, T. 1 S., R. 6 W.; USGS Liberty, Illinois, topographic quadrangle; lat. 39 degrees 58 minutes 29 seconds N. and long. 91 degrees 03 minutes 37 seconds W.; UTM Zone 15, 665629E 4426758N, NAD 83:

Ap—0 to 7 inches; dark grayish brown (10YR 4/2) silt loam, light gray (10YR 7/2) dry; weak thin platy structure parting to moderate fine granular; friable; common fine roots; many fine faint black (2.5Y 2.5/1) masses of manganese accumulation and few fine and medium faint black (2.5Y 2.5/1) manganese nodules throughout and many distinct very pale brown (10YR 8/2) clay depletions between peds; neutral; clear smooth boundary.

Eg—7 to 13 inches; grayish brown (10YR 5/2) silt loam, very pale brown (10YR 8/2) dry; weak thick platy structure parting to moderate fine subangular blocky; friable; common fine roots; common fine distinct yellowish brown (10YR 5/4) masses of iron and manganese accumulation throughout, many fine distinct black (2.5Y

2.5/1) manganese nodules throughout, and many distinct white (10YR 8/1) clay depletions throughout; neutral; clear smooth boundary.

Btg1—13 to 21 inches; light brownish gray (10YR 6/2) silty clay loam; moderate medium prismatic structure parting to moderate fine subangular blocky; friable; common fine and medium roots; many distinct grayish brown (10YR 5/2) clay films on faces of peds; few fine prominent black (2.5Y 2.5/1) masses of manganese accumulation, common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation, and few prominent black (2.5Y 2.5/1) manganese nodules throughout; strongly acid; clear wavy boundary.

Btg2—21 to 26 inches; light brownish gray (10YR 6/2) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; few fine roots; many distinct grayish brown (10YR 5/2) clay films on faces of peds; common fine prominent yellowish brown (10YR 5/8) masses of iron accumulation throughout, few fine prominent black (2.5Y 2.5/1) masses of manganese accumulation throughout, and few prominent black (2.5Y 2.5/1) manganese nodules throughout; moderately acid; clear wavy boundary.

Btg3—26 to 32 inches; light brownish gray (10YR 6/2) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; few fine roots; many distinct grayish brown (10YR 5/2) clay films and many distinct white (10YR 8/1) silt coatings on faces of peds; few fine prominent black (2.5Y 2.5/1) masses of manganese accumulation throughout, many fine prominent yellowish brown (10YR 5/8) masses of iron accumulation throughout, and common fine faint gray (10YR 6/1) iron depletions throughout; moderately acid; clear wavy boundary.

Btg4—32 to 43 inches; light brownish gray (10YR 6/2) silty clay loam; moderate coarse prismatic structure parting to moderate medium and coarse subangular blocky; firm; few distinct grayish brown (10YR 5/2) clay films in root channels and/or pores and very few distinct white (10YR 8/1) silt coatings on vertical faces of peds; many fine and medium prominent yellowish brown (10YR 5/8) masses of iron accumulation throughout, common fine prominent black (2.5Y 2.5/1) masses of manganese accumulation throughout, and few fine faint gray (10YR 6/1) iron depletions throughout; moderately acid; clear wavy boundary.

BCtg—43 to 50 inches; light brownish gray (10YR 6/2) silty clay loam; weak coarse prismatic structure; firm; few distinct grayish brown (10YR 5/2) clay films in root channels and/or pores; common medium prominent yellowish brown (10YR 5/8) and common fine prominent brownish yellow (10YR 6/8) masses of iron accumulation throughout; moderately acid; clear wavy boundary.

Cg1—50 to 74 inches; light brownish gray (10YR 6/2) silt loam; massive; firm; few distinct dark grayish brown (10YR 4/2) clay films in root channels and/or pores; many medium and coarse prominent strong brown (7.5YR 5/8) and common medium distinct yellowish brown (10YR 5/4) masses of iron and manganese accumulation throughout; slightly acid; clear wavy boundary.

Cg2—74 to 85 inches; light brownish gray (10YR 6/2) silt loam; massive; firm; few distinct dark grayish brown (10YR 4/2) clay films on faces of peds; many coarse prominent strong brown (7.5YR 5/8) masses of iron accumulation throughout; neutral.

Range in Characteristics

Depth to carbonates: More than 50 inches
Depth to the base of the diagnostic horizon: 40 to 60 inches

Ap or A horizon(s):
Hue—10YR
Value—2 to 5

Chroma—1 or 2
Texture—silt loam

Eg horizon(s):
Hue—10YR
Value—5 or 6
Chroma—1 or 2
Texture—silt loam or silt

Btg and BCtg horizons:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 or 2
Texture—silty clay loam or silty clay in the Btg horizon; silty clay loam or silt loam in the BCtg horizon

Cg horizon(s):
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 or 2
Texture—silt loam or silty clay loam

16A—Rushville silt loam, 0 to 2 percent slopes

Setting

Landform: Depressions on ground moraines (fig. 5)

Map Unit Composition

Rushville and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have a darker surface layer
- Soils that have less clay in the subsoil
- Soils that have a seasonal high water table at a depth of more than 1 foot

Dissimilar soils:
- The well drained Rozetta soils on summits

Properties and Qualities of the Rushville Soil

Parent material: Loess
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: High
Apparent seasonal high water table: At the surface to 1 foot below the surface
Ponding: At the surface to 0.5 foot above the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and concrete

Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Not prime farmland
Hydric soil status: Hydric

Russell Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Hapludalfs

Typical Pedon

Russell silt loam, 5 to 10 percent slopes, eroded; at an elevation of about 738 feet; Edgar County, Illinois; approximately 115 feet north and 235 feet west of the center of sec. 18, T. 12 N., R. 13 W.; USGS Westfield East, Illinois, topographic quadrangle; lat. 39 degrees 29 minutes 23 seconds N. and long. 87 degrees 53 minutes 48 seconds W.; UTM Zone 16, 422891E 4371512N, NAD 83:

Ap—0 to 7 inches; brown (10YR 4/3) silt loam, light brownish gray (10YR 6/2) dry; mixed with few yellowish brown (10YR 5/4) pockets of subsoil material in the lower part; moderate very fine and fine granular structure; friable; many very fine roots; few fine rounded black (10YR 2/1) very weakly cemented manganese concretions throughout; slightly acid; abrupt smooth boundary.

Bt1—7 to 13 inches; yellowish brown (10YR 5/4) silty clay loam; moderate fine subangular blocky structure; friable; common very fine roots; common distinct brown (10YR 5/3) clay films on faces of peds; few fine rounded black (10YR 2/1) very weakly cemented manganese concretions throughout; very strongly acid; clear smooth boundary.

Bt2—13 to 21 inches; yellowish brown (10YR 5/6) silty clay loam; moderate fine and medium subangular blocky structure; firm; common very fine roots; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; few fine rounded black (10YR 2/1) very weakly cemented manganese concretions throughout; very strongly acid; clear smooth boundary.

Bt3—21 to 27 inches; yellowish brown (10YR 5/4) silty clay loam; weak medium prismatic structure parting to moderate medium angular blocky; firm; few very fine roots; common distinct light yellowish brown (10YR 6/4) clay depletions on faces of peds; common distinct brown (7.5YR 4/4) clay films on faces of peds; few fine rounded black (10YR 2/1) very weakly cemented manganese concretions throughout; very strongly acid; clear smooth boundary.

2Bt4—27 to 36 inches; yellowish brown (10YR 5/4) clay loam; moderate medium and coarse subangular blocky structure; firm; few very fine roots; common distinct light yellowish brown (10YR 6/4) clay depletions on faces of peds; few distinct brown (7.5YR 4/4) clay films on faces of peds; few fine rounded black (10YR 2/1) very weakly cemented manganese concretions throughout; 2 percent fine gravel; neutral; clear smooth boundary.

2Bt5—36 to 56 inches; strong brown (7.5YR 5/6) clay loam; weak coarse subangular blocky structure; firm; few very fine roots; few distinct brown (10YR 4/3) clay films on faces of peds; few distinct dark brown (10YR 3/3) organo-clay films lining root channels and pores; few prominent black (10YR 2/1) manganese coatings on faces of peds; few fine and medium rounded black (10YR 2/1) very weakly cemented manganese concretions throughout; 5 percent fine gravel; neutral; gradual smooth boundary.

2C—56 to 72 inches; yellowish brown (10YR 5/4) loam; massive; firm; few fine rounded black (10YR 2/1) very weakly cemented manganese concretions throughout; 5 percent fine gravel; very slightly effervescent; moderately alkaline.

Range in Characteristics

Depth to the base of the diagnostic horizon: 40 to 60 inches
Depth to carbonates: 40 to 60 inches
Thickness of the loess: 20 to 40 inches

Ap or A horizon(s):
Hue—10YR
Value—4 or 5
Chroma—2 or 3
Texture—silt loam

E horizon(s) (where present):
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam

Bt horizon(s):
Hue—7.5YR to 2.5Y
Value—4 or 5
Chroma—3 to 6
Texture—silty clay loam

2Bt horizon(s):
Hue—7.5YR to 2.5Y
Value—4 or 5
Chroma—3 to 6
Texture—clay loam
Content of rock fragments—1 to 10 percent

2BC or 2BCt horizon(s) (where present):
Hue—7.5YR to 2.5Y
Value—4 or 5
Chroma—3 to 6
Texture—clay loam or loam
Content of rock fragments—1 to 14 percent

2C horizon(s):
Hue—10YR or 2.5Y
Value—5
Chroma—3 to 6
Texture—loam; less commonly fine sandy loam
Content of rock fragments—1 to 14 percent

736D2—Senachwine-Russell silt loams, 10 to 18 percent slopes, eroded

Setting

Landform: Ground moraines and end moraines
Position on the landform: Senachwine—backslopes; Russell—shoulders and backslopes

Map Unit Composition

Senachwine and similar soils: 65 percent
Russell and similar soils: 35 percent

Components of Minor Extent

Similar soils:
- Soils that have more clay in the surface layer
- Soils that have carbonates at a depth of more than 60 inches
- Soils that have slopes of less than 10 percent
- Soils that have a seasonal high water table within a depth of 6 feet

Properties and Qualities of the Senachwine Soil

Parent material: Till
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Russell Soil

Parent material: Loess over till
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Senachwine—4e; Russell—3e
Prime farmland category: Not prime farmland
Hydric soil status: Senachwine—not hydric; Russell—not hydric

Sable Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Endoaquolls

Typical Pedon

Sable silty clay loam, 0 to 2 percent slopes; at an elevation of 732 feet; Warren County, Illinois; 1,281 feet south and 97 feet west of the northeast corner of sec. 14, T. 9 N., R. 3 W.; USGS Kirkwood East, Illinois, topographic quadrangle; lat. 40 degrees 46 minutes 22 seconds N. and long. 90 degrees 41 minutes 34 seconds W.; UTM Zone 15, 694709E 4516111N, NAD 83:

Ap—0 to 8 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate fine and medium granular structure; firm; moderately acid; abrupt smooth boundary.

A—8 to 19 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate very fine angular blocky structure; firm; few fine distinct rounded dark reddish brown (5YR 3/2) iron and manganese concretions throughout; slightly acid; clear smooth boundary.

AB—19 to 23 inches; very dark gray (10YR 3/1) silty clay loam, grayish brown (10YR 5/2) dry; moderate fine angular blocky structure; firm; few faint very dark grayish brown (10YR 3/2) organic coatings on faces of peds; few fine distinct rounded dark reddish brown (5YR 3/2) iron and manganese concretions throughout; slightly acid; clear smooth boundary.

Bg—23 to 29 inches; dark gray (10YR 4/1) silty clay loam; moderate fine and medium subangular blocky structure; firm; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds; common fine and medium distinct rounded dark reddish brown (5YR 3/2) iron and manganese concretions throughout; common medium distinct brown (10YR 5/3) masses of iron and manganese accumulation in the matrix; few medium faint dark grayish brown (10YR 4/2) iron depletions in the matrix; neutral; clear smooth boundary.

Btg1—29 to 38 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate medium and coarse subangular blocky structure; firm; few distinct dark gray (10YR 4/1) clay films on faces of peds; many fine and medium prominent rounded dark reddish brown (5YR 3/2) iron and manganese concretions throughout; many medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; neutral; clear wavy boundary.

Btg2—38 to 47 inches; gray (N 5/) silt loam; weak medium prismatic structure parting to weak medium and coarse angular blocky; firm; few distinct grayish brown (10YR 5/2) clay films on faces of peds; common fine prominent rounded dark reddish brown (5YR 3/2) iron and manganese concretions throughout; many medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; slightly alkaline; gradual smooth boundary.

Cg—47 to 60 inches; gray (N 6/) silt loam; massive; friable; many medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; slightly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 12 to 24 inches
Depth to carbonates: More than 40 inches
Depth to the base of the diagnostic horizon: 40 to 60 inches
Other features: Some pedons have a BC or BCg horizon.

Ap or A horizon(s):
Hue—10YR, 2.5Y, 5Y, or N
Value—2 or 3

Chroma—0 or 1
Texture—silty clay loam

AB or BA horizon(s) (where present):
Hue—10YR, 2.5Y, 5Y, or N
Value—2 or 3
Chroma—0 or 1
Texture—silty clay loam

Btg or Bg horizon(s):
Hue—10YR, 2.5Y, 5Y, or N
Value—3 to 6
Chroma—0 to 2
Texture—silty clay loam in the upper part; silty clay loam or silt loam in the lower part

Cg horizon(s):
Hue—10YR, 2.5Y, 5Y, or N
Value—3 to 6
Chroma—0 to 2
Texture—silt loam or silty clay loam

68A—Sable silty clay loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Talfs and toeslopes (fig. 4; fig. 6; fig. 7)

Map Unit Composition

Sable and similar soils: 85 percent
Dissimilar soils: 15 percent

Components of Minor Extent

Similar soils:
- Soils that have less clay in the surface layer
- Soils that have more sand in the underlying material
- Soils that have a seasonal high water table at a depth of more than 1 foot
- Soils that have carbonates at a depth of less than 40 inches
- Soils that have a thinner dark surface layer, a lighter colored subsurface layer, and more clay in the upper part of the subsoil

Dissimilar soils:
- The well drained Osco soils on summits
- The moderately well drained Buckhart soils on summits and knolls

Properties and Qualities of the Sable Soil

Parent material: Loess
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 4.5 to 6.0 percent
Shrink-swell potential: Moderate

Apparent seasonal high water table: At the surface to 1 foot below the surface
Ponding: At the surface to 0.5 foot above the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Hydric

Sawmill Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Cumulic Endoaquolls

Typical Pedon

Sawmill silty clay loam, 0 to 2 percent slopes, frequently flooded; at an elevation of 535 feet; Sangamon County, Illinois; 300 feet south and 750 feet east of the northwest corner of sec. 20, T. 15 N., R. 4 W.; USGS New City, Illinois, topographic quadrangle; lat. 39 degrees 44 minutes 34 seconds N. and long. 89 degrees 34 minutes 15 seconds W.; UTM Zone 16, 279712E 4402375N, NAD 83:

Ap—0 to 10 inches; very dark gray (10YR 3/1) and very dark grayish brown (10YR 3/2) silty clay loam, gray (10YR 5/1) dry; weak fine subangular blocky structure; firm; few fine roots; few subrounded fine pebbles; some very coarse sand; slightly acid; clear smooth boundary.

A1—10 to 17 inches; black (10YR 2/1) and very dark grayish brown (10YR 3/2) silty clay loam, dark gray (10YR 4/1) dry; moderate fine subangular blocky structure; firm; few fine roots; few subrounded fine pebbles; some very coarse sand; few fine faint rounded black (7.5YR 2.5/1) weakly cemented manganese concretions with diffuse boundaries lining root channels and pores; few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; neutral; clear smooth boundary.

A2—17 to 25 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate fine and medium angular blocky structure; firm; few fine roots; few fine faint rounded black (7.5YR 2.5/1) weakly cemented manganese concretions with diffuse boundaries lining root channels and pores; few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; neutral; clear smooth boundary.

AB—25 to 32 inches; very dark gray (10YR 3/1) silty clay loam, gray (10YR 5/1) dry; weak medium prismatic structure parting to moderate fine subangular blocky; firm; few fine roots; few fine faint rounded black (7.5YR 2.5/1) weakly cemented manganese concretions with diffuse boundaries lining root channels and pores; few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; neutral; clear smooth boundary.

Bg—32 to 40 inches; dark gray (10YR 4/1) silty clay loam; weak medium prismatic structure parting to moderate fine and medium angular blocky; firm; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds; few fine roots; few fine faint rounded black (7.5YR 2.5/1) weakly cemented manganese

concretions with diffuse boundaries lining root channels and pores; few fine prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; slightly alkaline; clear smooth boundary.

Btg1—40 to 49 inches; grayish brown (10YR 5/2) silty clay loam; moderate medium prismatic structure parting to weak medium angular blocky; firm; common distinct dark gray (10YR 4/1) clay films on faces of peds; few fine distinct rounded black (7.5YR 2.5/1) weakly cemented manganese concretions with diffuse boundaries lining root channels and pores; few fine prominent strong brown (7.5YR 5/6) and common fine distinct yellowish brown (10YR 5/4) masses of iron and manganese accumulation in the matrix; slightly alkaline; clear smooth boundary.

Btg2—49 to 58 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate medium prismatic structure; firm; common distinct gray (10YR 5/1) clay films on faces of peds; few fine prominent rounded black (7.5YR 2.5/1) weakly cemented manganese concretions with diffuse boundaries lining pores; few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; slightly alkaline; clear smooth boundary.

Cg—58 to 65 inches; grayish brown (2.5Y 5/2) silty clay loam; massive; firm; very dark gray (10YR 3/1) channel linings and fillings; many medium prominent yellowish brown (10YR 5/6) masses of iron accumulation lining pores; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 24 to 36 inches

Depth to the base of the diagnostic horizon: 36 to 60 inches

Other features: The Sawmill soil in map unit 3107S has a sandy substratum within a depth of 80 inches. The characteristics of this layer are the same as those described for the 2Cg horizon(s) below.

Ap, A, or AB horizon(s):
- Hue—10YR, 2.5Y, 5Y, or N
- Value—2 or 3
- Chroma—0 to 2
- Texture—silty clay loam or silt loam

Bg or Btg horizon(s):
- Hue—10YR, 2.5Y, or 5Y
- Value—3 to 6
- Chroma—1 or 2
- Texture—silty clay loam; clay loam or loam in the lower part in some pedons

Cg horizon(s) (where present):
- Hue—10YR, 2.5Y, or 5Y
- Value—3 to 6
- Chroma—1 or 2
- Texture—silty clay loam, clay loam, silt loam, or loam

2Cg horizon(s) (where present):
- Hue—10YR, 2.5Y, or 5Y
- Value—3 to 6
- Chroma—1 or 2
- Texture—fine sand, sand, loamy fine sand, or loamy sand

3107+—Sawmill silt loam, overwash, 0 to 2 percent slopes, frequently flooded

Setting

Landform: Flood plains

Map Unit Composition

Sawmill and similar soils: 95 percent
Dissimilar soils: 5 percent

Components of Minor Extent

Similar soils:
- Soils that have more than 20 inches of silty overwash and have a seasonal high water table at a depth of more than 1 foot
- Soils that have a lighter colored surface layer
- Soils that have more clay in the surface soil and in the subsoil

Dissimilar soils:
- The well drained Huntsville and Ross soils in the slightly higher positions

Properties and Qualities of the Sawmill Soil

Parent material: Alluvium
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 4 to 5 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: At the surface to 1 foot below the surface
Frequency and most likely period of flooding: Frequent, November to June
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Prime farmland where drained and either protected from flooding or not frequently flooded during the growing season
Hydric soil status: Hydric

3107A—Sawmill silty clay loam, 0 to 2 percent slopes, frequently flooded

Setting

Landform: Flood plains (fig. 5)

Map Unit Composition

Sawmill and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have more sand throughout
- Soils that have more clay in the subsoil
- Soils that have a dark surface soil less than 24 inches thick
- Soils that have a seasonal high water table at a depth of more than 1 foot
- Soils that have less clay in the upper part of the surface soil

Dissimilar soils:
- The well drained Huntsville and Ross soils in the slightly higher positions

Properties and Qualities of the Sawmill Soil

Parent material: Alluvium
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 4.5 to 7.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: At the surface to 1 foot below the surface
Ponding: At the surface to 0.5 foot above the surface
Frequency and most likely period of flooding: Frequent, November to June
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Prime farmland where drained and either protected from flooding or not frequently flooded during the growing season
Hydric soil status: Hydric

3107S—Sawmill silty clay loam, sandy substratum, 0 to 2 percent slopes, frequently flooded

Setting

Landform: Flood plains

Map Unit Composition

Sawmill and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have more sand in the surface soil and in the subsoil
- Soils that have more clay in the subsoil
- Soils that have a dark surface soil less than 24 inches thick
- Soils that have a seasonal high water table at a depth of more than 1 foot
- Soils that have less sand in the underlying material

Dissimilar soils:
- The well drained Ross and Huntsville soils in the slightly higher positions

Properties and Qualities of the Sawmill Soil

Parent material: Alluvium over sandy sediments
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately rapid or rapid
Depth to restrictive feature: 40 to 60 inches (strongly contrasting textural stratification)
Available water capacity: About 11.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 4.5 to 7.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: At the surface to 1 foot below the surface
Ponding: At the surface to 0.5 foot above the surface
Frequency and most likely period of flooding: Frequent, November to June
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Prime farmland where drained and either protected from flooding or not frequently flooded during the growing season
Hydric soil status: Hydric

8107+—Sawmill silt loam, overwash, 0 to 2 percent slopes, occasionally flooded

Setting

Landform: Flood plains

Map Unit Composition

Sawmill and similar soils: 100 percent

Components of Minor Extent

Similar soils:
- Soils that have more than 20 inches of silty overwash and have a seasonal high water table at a depth of more than 1 foot
- Soils that have a lighter colored surface layer
- Soils that have more clay in the surface soil and in the subsoil

Properties and Qualities of the Sawmill Soil

Parent material: Alluvium
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 4 to 5 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: At the surface to 1 foot below the surface

Frequency and most likely period of flooding: Occasional, November to June
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Hydric

8107A—Sawmill silty clay loam, 0 to 2 percent slopes, occasionally flooded

Setting

Landform: Flood plains

Map Unit Composition

Sawmill and similar soils: 100 percent

Components of Minor Extent

Similar soils:
- Soils that have more sand in the surface soil and in the subsoil
- Soils that have a dark surface soil less than 24 inches thick
- Soils that have a seasonal high water table at a depth of more than 1 foot
- Soils that have less clay throughout

Properties and Qualities of the Sawmill Soil

Parent material: Alluvium
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 4 to 7 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: At the surface to 1 foot below the surface
Ponding: At the surface to 0.5 foot above the surface
Frequency and most likely period of flooding: Occasional, November to June
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Hydric

Senachwine Series

Taxonomic classification: Fine-loamy, mixed, active, mesic Typic Hapludalfs

Typical Pedon

Senachwine silt loam, 10 to 18 percent slopes, eroded; at an elevation of 856 feet; Bureau County, Illinois; 1,040 feet west and 1,345 feet south of the northeast corner of sec. 21, T. 15 N., R. 8 E.; USGS Wyanet, Illinois, topographic quadrangle; lat. 41 degrees 16 minutes 25 seconds N. and long. 89 degrees 34 minutes 18 seconds W.; UTM Zone 16, 284598E 4572325N, NAD 83:

Ap—0 to 6 inches; mixed dark brown (10YR 4/3) and yellowish brown (10YR 5/4) silt loam, pale brown (10YR 6/3) dry; moderate fine granular structure; friable; common fine roots; neutral; abrupt smooth boundary.

Bt1—6 to 15 inches; yellowish brown (10YR 5/4) silty clay loam; moderate fine subangular blocky structure; friable; few fine roots; common faint dark yellowish brown (10YR 4/4) clay films on faces of peds; moderately acid; clear smooth boundary.

2Bt2—15 to 28 inches; brown (7.5YR 5/4) clay loam; moderate medium subangular blocky structure; firm; few fine roots; many faint brown (7.5YR 4/4) clay films on faces of peds; few fine rounded black (N 2.5/) weakly cemented manganese concretions throughout; neutral; clear smooth boundary.

2BCt—28 to 34 inches; brown (7.5YR 5/4) loam; weak coarse prismatic structure; firm; few fine roots; common faint brown (7.5YR 4/4) clay films on faces of peds; 5 percent gravel; slightly effervescent; slightly alkaline; clear smooth boundary.

2C—34 to 60 inches; brown (7.5YR 5/4) loam; massive; firm; 5 percent gravel; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the loess: Less than 18 inches
Depth to the base of the diagnostic horizon: 24 to 40 inches
Depth to carbonates: 20 to 40 inches

Ap or A horizon(s):
- Hue—10YR
- Value—3 to 5
- Chroma—1 to 4
- Texture—loam, silt loam, or clay loam

Bt or 2Bt horizon(s):
- Hue—7.5YR, 10YR, or 2.5Y
- Value—4 to 6
- Chroma—3 to 6
- Texture—silty clay loam or clay loam
- Content of rock fragments—1 to 10 percent

C or 2C horizon(s):
- Hue—7.5YR, 10YR, or 2.5Y
- Value—5 or 6
- Chroma—3 or 4
- Texture—loam
- Content of rock fragments—1 to 10 percent

618F—Senachwine silt loam, 18 to 35 percent slopes

Setting

Landform: End moraines and ground moraines
Position on the landform: Backslopes

Map Unit Composition

Senachwine and similar soils: 100 percent

Components of Minor Extent

Similar soils:
- Soils that have carbonates at a depth of less than 20 inches
- Soils that have slopes of less than 18 percent
- Soils that have slopes of more than 35 percent

Properties and Qualities of the Senachwine Soil

Parent material: Till
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 6e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

733C2—Birkbeck-Senachwine silt loams, 5 to 10 percent slopes, eroded

Setting

Landform: Ground moraines and end moraines
Position on the landform: Birkbeck—shoulders and backslopes; Senachwine—backslopes

Map Unit Composition

Birkbeck and similar soils: 60 percent
Senachwine and similar soils: 40 percent

Components of Minor Extent

Similar soils:
- Soils that have more clay in the surface layer

- Soils that have slopes of more than 10 percent
- Soils that have more than 15 percent sand at a depth of 20 to 40 inches

Properties and Qualities of the Birkbeck Soil

Parent material: Loess over till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: Moderate
Perched seasonal high water table: 2.0 to 3.5 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Senachwine Soil

Parent material: Till
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Birkbeck—3e; Senachwine—3e
Prime farmland category: Not prime farmland
Hydric soil status: Birkbeck—not hydric; Senachwine—not hydric

733C3—Birkbeck-Senachwine complex, 5 to 10 percent slopes, severely eroded

Setting

Landform: Ground moraines and end moraines
Position on the landform: Birkbeck—backslopes; Senachwine—shoulders and backslopes

Map Unit Composition

Birkbeck and similar soils: 60 percent
Senachwine and similar soils: 40 percent

Components of Minor Extent

Similar soils:
- Soils that have less clay in the surface layer
- Soils that have slopes of more than 10 percent
- Soils that have more than 15 percent sand at a depth of 20 to 40 inches

Properties and Qualities of the Birkbeck Soil

Parent material: Loess over till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.2 to 1.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table: 2.0 to 3.5 feet below the surface
Flooding: None
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Properties and Qualities of the Senachwine Soil

Parent material: Till
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 1.0 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Birkbeck—4e; Senachwine—4e
Prime farmland category: Not prime farmland
Hydric soil status: Birkbeck—not hydric; Senachwine—not hydric

736D2—Senachwine-Russell silt loams, 10 to 18 percent slopes, eroded

Setting

Landform: Ground moraines and end moraines
Position on the landform: Senachwine—backslopes; Russell—shoulders and backslopes

Map Unit Composition

Senachwine and similar soils: 65 percent
Russell and similar soils: 35 percent

Components of Minor Extent

Similar soils:
- Soils that have more clay in the surface layer
- Soils that have carbonates at a depth of more than 60 inches
- Soils that have slopes of less than 10 percent
- Soils that have a seasonal high water table within a depth of 6 feet

Properties and Qualities of the Senachwine Soil

Parent material: Till
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Russell Soil

Parent material: Loess over till
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High

Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Senachwine—4e; Russell—3e
Prime farmland category: Not prime farmland
Hydric soil status: Senachwine—not hydric; Russell—not hydric

Shiloh Series

Taxonomic classification: Fine, smectitic, mesic Cumulic Vertic Endoaquolls

Typical Pedon

Shiloh silty clay loam, 0 to 2 percent slopes; at an elevation of about 595 feet; Christian County, Illinois; about 2,600 feet east and 132 feet south of the northwest corner of sec. 34, T. 16 N., R. 1 W.; USGS Niantic topographic quadrangle; lat. 39 degrees 48 minutes 03 seconds N. and long. 89 degrees 11 minutes 23 seconds W.; UTM Zone 16, 312537E 4407932N, NAD 83:

Ap—0 to 7 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate fine granular structure; firm; few very fine roots; few fine rounded black (7.5YR 2.5/1) manganese concretions; slightly acid; abrupt smooth boundary.

A—7 to 15 inches; black (N 2.5/1) silty clay loam, very dark gray (10YR 3/1) dry; moderate very fine subangular blocky structure; firm; few very fine roots; few fine rounded black (7.5YR 2.5/1) manganese concretions; neutral; clear smooth boundary.

BA—15 to 27 inches; black (N 2.5/1) silty clay, very dark gray (10YR 3/1) dry; moderate very fine angular blocky structure; firm; few very fine roots; few fine rounded black (7.5YR 2.5/1) manganese concretions; neutral; clear smooth boundary.

Bg1—27 to 32 inches; olive gray (5Y 5/2) silty clay; moderate fine subangular blocky structure; firm; few very fine roots; many prominent very dark gray (10YR 3/1) pressure faces on peds; few fine prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; neutral; clear smooth boundary.

Bg2—32 to 39 inches; olive gray (5Y 5/2) silty clay loam; moderate medium subangular blocky structure; friable; few very fine roots; many distinct dark grayish brown (10YR 4/2) pressure faces on peds; few prominent very dark gray (10YR 3/1) organic coatings lining pores; few fine rounded black (7.5YR 2.5/1) manganese concretions; many fine prominent yellowish brown (10YR 5/6) masses of iron accumulation throughout; neutral; clear smooth boundary.

Bg3—39 to 52 inches; olive gray (5Y 5/2) silty clay loam; moderate medium subangular blocky structure; friable; few fine roots; few prominent very dark gray (10YR 3/1) organic coatings lining pores; few fine rounded black (10YR 2/1) manganese concretions; many medium prominent yellowish brown (10YR 5/6) masses of iron accumulation throughout; neutral; clear smooth boundary.

BCg—52 to 60 inches; olive gray (5Y 5/2) silt loam; weak medium subangular blocky structure; friable; few very fine roots; few prominent very dark gray (10YR 3/1) organic coatings lining pores; many medium prominent yellowish brown (10YR 5/6) masses of iron accumulation throughout; neutral; clear smooth boundary.

Cg—60 to 80 inches; gray (10YR 6/1) silt loam; massive; friable; many medium prominent yellowish brown (10YR 5/6) masses of iron accumulation throughout; very slightly effervescent; slightly alkaline.

Range in Characteristics

Depth to the base of the diagnostic horizon: 40 to 70 inches
Thickness of the mollic epipedon: 24 to 48 inches
Depth to carbonates: More than 39 inches
Other features: Some pedons have an AB or BA horizon.

Ap or A horizon(s):
Hue—10YR, 2.5Y, 5Y, or N
Value—2 or 3
Chroma—0 to 2
Texture—silty clay loam or silty clay

Bg horizon(s):
Hue—10YR, 2.5Y, 5Y, or N
Value—2 to 5
Chroma—0 to 2
Texture—silty clay or silty clay loam

Cg horizon(s):
Hue—10YR, 2.5Y, 5Y, or N
Value—2 to 6
Chroma—0 to 2
Texture—silty clay loam or silt loam

138A—Shiloh silty clay loam, 0 to 2 percent slopes

Setting

Landform: Depressions on ground moraines

Map Unit Composition

Shiloh and similar soils: 100 percent

Components of Minor Extent

Similar soils:
- Soils that have a thinner dark surface soil
- Soils that have more sand in the underlying material
- Soils that have less clay in the subsoil
- Soils that have carbonates at a depth of less than 40 inches
- Soils that have a seasonal high water table at a depth of more than 1 foot

Properties and Qualities of the Shiloh Soil

Parent material: Loess
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 4 to 6 percent
Shrink-swell potential: High
Apparent seasonal high water table: At the surface to 1 foot below the surface
Ponding: At the surface to 1 foot above the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Hydric

Sparta Series

Taxonomic classification: Mixed, mesic Typic Udipsamments
Taxadjunct features: The Sparta soils in this survey area have a thinner dark surface layer than is defined as the range for the series. This difference, however, does not significantly affect the use and management of these soils.

Typical Pedon

Sparta loamy sand, 1 to 6 percent slopes; at an elevation of 487 feet; Adams County, Illinois; 1,510 feet north and 2,290 feet east of the southwest corner of sec. 21, T. 3 S., R. 8 W.; USGS Marblehead, Illinois, topographic quadrangle; lat. 39 degrees 47 minutes 29 seconds N. and long. 91 degrees 19 minutes 57 seconds W.; UTM Zone 15, 642784E 4405939N, NAD 83:

Ap—0 to 9 inches; very dark brown (10YR 2/2) loamy sand, dark grayish brown (10YR 4/2) dry; weak fine granular structure; very friable; common very fine roots; neutral; clear smooth boundary.
A—9 to 18 inches; very dark brown (10YR 2/2) loamy sand, dark grayish brown (10YR 4/2) dry; weak fine subangular blocky structure parting to weak fine granular; very friable; common very fine roots; slightly acid; clear smooth boundary.
AB—18 to 23 inches; dark brown (10YR 3/3) loamy sand, brown (10YR 5/3) dry; weak fine subangular blocky structure parting to weak fine granular; very friable; common black (10YR 2/1) organic coatings on faces of peds; slightly acid; clear smooth boundary.
Bw—23 to 34 inches; brown (10YR 4/3) loamy sand; weak fine subangular blocky structure parting to weak fine granular; very friable; few faint dark brown (10YR 3/3) organic coatings on faces of peds; slightly acid; clear smooth boundary.
C1—34 to 39 inches; yellowish brown (10YR 5/6) sand; single grain; loose; 1 percent gravel; slightly acid; clear smooth boundary.
C2—39 to 60 inches; yellowish brown (10YR 5/6) sand; single grain; loose; 5 percent gravel; neutral.

Range in Characteristics

Thickness of the dark surface layer: 7 to 9 inches
Depth to base of soil development: 24 to 45 inches

Ap or A horizon(s):
Hue—10YR or 7.5YR
Value—2 or 3
Chroma—1 or 2
Texture—loamy fine sand or loamy sand
Content of rock fragments—0 to 10 percent

Bw horizon(s):
Hue—10YR or 7.5YR
Value—3 to 6

Chroma—3 to 6
Texture—loamy fine sand, loamy sand, fine sand, or sand
Content of rock fragments—0 to 10 percent

C horizon(s):
Hue—10YR or 7.5YR
Value—4 to 6
Chroma—3 to 6
Texture—sand or fine sand
Content of rock fragments—0 to 10 percent

828D2—Broadwell-Sparta complex, 7 to 15 percent slopes, eroded

Setting

Landform: Dunes on ground moraines
Position on the landform: Broadwell—shoulders and backslopes; Sparta—summits and shoulders (fig. 6)

Map Unit Composition

Broadwell and similar soils: 50 percent
Sparta and similar soils: 40 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have a thicker dark surface soil
- Soils that have sandy material starting at a depth of more than 60 inches
- Soils that have slopes of less than 7 percent
- Soils that have slopes of more than 15 percent

Dissimilar soils:
- The somewhat poorly drained Lawndale soils in the less sloping positions

Properties and Qualities of the Broadwell Soil

Parent material: Loess over eolian sands
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 3 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Sparta Soil

Parent material: Eolian sands
Drainage class: Excessively drained

Slowest permeability within a depth of 40 inches: Moderately rapid
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 4.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Low
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Low
Hazard of corrosion: Low for steel and high for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: High

Interpretive Groups

Land capability classification: Broadwell—3e; Sparta—6s
Prime farmland category: Not prime farmland
Hydric soil status: Broadwell—not hydric; Sparta—not hydric

Spaulding Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Calciaquolls

Typical Pedon

Spaulding silty clay loam, 0 to 2 percent slopes; at an elevation of about 612 feet; Sangamon County, Illinois; about 2 miles east of Buffalo Hart; 2,410 feet east and 1,300 feet south of the northwest corner of sec. 22, T. 17 N., R. 3 W.; USGS Cornland, Illinois, topographic quadrangle; lat. 39 degrees 54 minutes 52 seconds N. and long. 89 degrees 24 minutes 54 seconds W.; UTM Zone 16, 293580E 4421059N, NAD 83:

Apk—0 to 9 inches; black (10YR 2/1) silty clay loam, very dark gray (10YR 3/1) dry; weak and moderate fine granular structure; friable; many fine roots throughout; few snail shells; violently effervescent; 15 percent calcium carbonate equivalent; moderately alkaline; abrupt smooth boundary.

Ak1—9 to 18 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate very fine and fine subangular blocky structure; friable; many fine roots throughout; few snail shells; violently effervescent; 22 percent calcium carbonate equivalent; moderately alkaline; clear smooth boundary.

Ak2—18 to 22 inches; very dark gray (10YR 3/1) silty clay loam, gray (10YR 5/1) dry; moderate very fine and fine subangular blocky structure; firm; common fine roots throughout; few fine prominent light olive brown (2.5Y 5/6) masses of iron accumulation along micropores; few snail shells; violently effervescent; 22 percent calcium carbonate equivalent; moderately alkaline; clear smooth boundary.

Btkg1—22 to 26 inches; dark gray (2.5Y 4/1) silty clay loam; moderate very fine and fine subangular blocky structure; firm; common fine roots throughout; common distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; common distinct black (10YR 2/1) organic coatings in root channels and/or pores; few fine prominent light olive brown (2.5Y 5/6) masses of iron accumulation along micropores; few fine carbonate nodules; strongly effervescent; 12 percent calcium carbonate equivalent; moderately alkaline; clear smooth boundary.

Btkg2—26 to 32 inches; olive gray (5Y 5/2) silty clay loam; moderate fine and medium subangular blocky structure; firm; common fine roots throughout; few distinct gray

(5Y 5/1) clay films on faces of peds; common fine rounded prominent black (10YR 2/1) masses of manganese accumulation in the matrix; common medium prominent light olive brown (2.5Y 5/6) and yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common medium and coarse carbonate nodules; strongly effervescent; 12 percent calcium carbonate equivalent; moderately alkaline; clear smooth boundary.

Btkg3—32 to 38 inches; gray (5Y 6/1) silty clay loam; moderate fine and medium subangular blocky structure; firm; few distinct gray (5Y 5/1) clay films on faces of peds; very few distinct very dark gray (10YR 3/1) organic coatings in root channels and/or pores; many fine prominent light olive brown (2.5Y 5/6) and few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few fine carbonate nodules; strongly effervescent; 16 percent calcium carbonate equivalent; moderately alkaline; clear smooth boundary.

BCkg—38 to 44 inches; gray (5Y 6/1) silty clay loam; weak medium subangular blocky structure; firm; few distinct gray (5Y 5/1) clay films in root channels and/or pores; few distinct very dark gray (10YR 3/1) organic coatings in root channels and/or pores; many fine prominent light olive brown (2.5Y 5/6) and few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few fine carbonate nodules; strongly effervescent; 16 percent calcium carbonate equivalent; moderately alkaline; clear smooth boundary.

Cg—44 to 80 inches; gray (5Y 6/1) silt loam; massive; friable; many medium prominent strong brown (7.5YR 5/8) masses of iron accumulation in the matrix; strongly effervescent; 19 percent calcium carbonate equivalent; moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 24 inches
Depth to carbonates: 0 to 16 inches
Depth to the base of the diagnostic horizon: 22 to 60 inches
Other features: Some pedons have a BCg horizon.

Apk or Ak horizon(s):
Hue—10YR, 2.5Y, 5Y, or N
Value—2 or 3
Chroma—0 or 1
Texture—silty clay loam

Bkg or Btkg horizon(s):
Hue—10YR, 2.5Y, 5Y, or N
Value—3 to 6
Chroma—0 to 2
Texture—silty clay loam or silt loam

Cg horizon(s):
Hue—7.5YR, 10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 8
Texture—silt loam

712A—Spaulding silty clay loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Talfs

Map Unit Composition

Spaulding and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have more sand in the underlying material
- Soils that have carbonates within a depth of 40 inches but not within a depth of 16 inches

Dissimilar soils:
- The poorly drained, noncalcareous Sable soils in positions similar to those of the Spaulding soil
- The poorly drained Shiloh soils in depressions

Properties and Qualities of the Spaulding Soil

Parent material: Calcareous loess
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 4 to 6 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: At the surface to 1 foot below the surface
Ponding: At the surface to 0.5 foot above the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Hydric

St. Charles Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Hapludalfs

Typical Pedon

St. Charles silt loam, 2 to 5 percent slopes; at an elevation of about 623 feet; Bureau County, Illinois; about 80 feet north and 2,170 feet west of the southeast corner of sec. 26, T. 16 N., R. 8 E.; USGS Wyanet, Illinois, topographic quadrangle: lat. 41 degrees 20 minutes 09 seconds N. and long. 89 degrees 32 minutes 12 seconds W.; UTM Zone 16, 287732E 4579148N, NAD 83:

Ap—0 to 8 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; moderate medium granular structure; friable; few fine roots; moderately acid; abrupt smooth boundary.

Bt1—8 to 15 inches; yellowish brown (10YR 5/4) silty clay loam; moderate fine subangular blocky structure; friable; few fine roots; many distinct dark brown

(10YR 3/3) organic coatings and dark yellowish brown (10YR 4/4) clay films on faces of peds; moderately acid; clear smooth boundary.

Bt2—15 to 21 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium subangular blocky structure; friable; few fine roots; many distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; moderately acid; clear smooth boundary.

Bt3—21 to 34 inches; yellowish brown (10YR 5/4) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; friable; few fine roots; many distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; few fine rounded distinct black (10YR 2/1) manganese accumulations; moderately acid; clear smooth boundary.

Bt4—34 to 44 inches; yellowish brown (10YR 5/4) silt loam; moderate medium prismatic structure parting to moderate medium subangular blocky; friable; many distinct dark yellowish brown (10YR 4/4) clay films and many distinct light gray (10YR 7/2) silt coatings on faces of peds; common medium faint brown (7.5YR 4/4) masses of iron and manganese; moderately acid; clear smooth boundary.

Bt5—44 to 50 inches; yellowish brown (10YR 5/4) silt loam; moderate medium subangular blocky structure; friable; many distinct dark yellowish brown (10YR 4/4) clay films and light gray (10YR 7/2) silt coatings on faces of peds; few fine distinct strong brown (7.5YR 5/6) masses of iron accumulation; moderately acid; clear smooth boundary.

2Bt6—50 to 57 inches; yellowish brown (10YR 5/6), stratified loam, sandy loam, and silt loam; weak medium subangular blocky structure; friable; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; moderately acid; clear smooth boundary.

2C—57 to 60 inches; yellowish brown (10YR 5/4), stratified loam and silt loam; massive; friable; moderately acid.

Range in Characteristics

Depth to the base of the diagnostic horizon: More than 35 inches
Depth to carbonates: More than 44 inches
Thickness of the loess: 40 to 60 inches

Ap or A horizon(s):
Hue—10YR
Value—3 to 5
Chroma—1 to 3
Texture—silt loam

E horizon (where present):
Hue—10YR
Value—4 to 6
Chroma—2 to 4
Texture—silt loam

BE or Bt horizon(s):
Hue—10YR or 7.5YR
Value—4 or 5
Chroma—3 to 6
Texture—silty clay loam or silt loam

2Bt or 2BC horizon(s):
Hue—10YR or 7.5YR
Value—4 to 6
Chroma—3 to 6

Texture—loam, sandy loam, fine sandy loam, sandy clay loam, clay loam, or silt loam; typically stratified
Content of rock fragments—0 to 15 percent

2C horizon(s):
Hue—10YR or 7.5YR
Value—4 to 6
Chroma—3 to 6
Texture—silt loam, loam, sandy loam, gravelly loam, or gravelly sandy loam; typically stratified
Content of rock fragments—0 to 20 percent

243A—St. Charles silt loam, 0 to 2 percent slopes

Setting

Landform: Stream terraces
Position on the landform: Talfs

Map Unit Composition

St. Charles and similar soils: 95 percent
Dissimilar soils: 5 percent

Components of Minor Extent

Similar soils:
- Soils that have less than 10 percent sand to a depth of more than 60 inches
- Soils that have more than 10 percent sand within a depth of 40 inches
- Soils that have slopes of more than 2 percent

Dissimilar soils:
- The somewhat poorly drained Kendall soils in the slightly lower positions

Properties and Qualities of the St. Charles Soil

Parent material: Loess over outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

243B—St. Charles silt loam, 2 to 5 percent slopes

Setting

Landform: Outwash plains and stream terraces
Position on the landform: Summits and shoulders

Map Unit Composition

St. Charles and similar soils: 95 percent
Dissimilar soils: 5 percent

Components of Minor Extent

Similar soils:
- Soils that have less than 10 percent sand to a depth of more than 60 inches
- Soils that have more than 10 percent sand within a depth of 40 inches
- Soils that have more sand in the underlying material
- Soils that have slopes of less than 2 percent

Dissimilar soils:
- The somewhat poorly drained Kendall soils in the slightly lower positions

Properties and Qualities of the St. Charles Soil

Parent material: Loess over outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 3 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

243C2—St. Charles silt loam, 5 to 10 percent slopes, eroded

Setting

Landform: Outwash plains and stream terraces
Position on the landform: Shoulders and backslopes

Map Unit Composition

St. Charles and similar soils: 100 percent

Components of Minor Extent

Similar soils:
- Soils that have less than 10 percent sand to a depth of more than 60 inches
- Soils that have more than 10 percent sand within a depth of 40 inches
- Soils that have slopes of less than 5 percent
- Soils that have more clay in the surface layer
- Soils that have a thicker surface soil

Properties and Qualities of the St. Charles Soil

Parent material: Loess over outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 2 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

Sylvan Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Hapludalfs

Typical Pedon

Sylvan silt loam, in an area of Sylvan-Bold silt loams, 18 to 35 percent slopes; at an elevation of 620 feet; Cass County, Illinois; 210 feet south and 2,580 feet west of the northeast corner of sec. 28, T. 18 N., R. 10 W.; USGS Virginia, Illinois, topographic quadrangle; lat. 39 degrees 59 minutes 21 seconds N. and long. 90 degrees 13 minutes 44 seconds W.; UTM Zone 15, 736584E 4430238N, NAD 83:

A—0 to 4 inches; dark grayish brown (10YR 4/2) silt loam, brown (10YR 5/3) dry; weak fine and medium subangular blocky structure parting to weak fine granular; friable; common very fine roots; few faint very dark grayish brown (10YR 3/2) organic coatings on faces of peds; neutral; clear smooth boundary.

E1—4 to 8 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak medium platy structure parting to weak very fine subangular blocky; friable; few very fine and medium roots; many faint dark grayish brown (10YR 4/2) coatings of A horizon material on faces of peds; moderately acid; clear smooth boundary.

E2—8 to 10 inches; dark yellowish brown (10YR 4/4) silt loam, light yellowish brown (10YR 6/4) dry; weak fine and medium subangular blocky structure; friable; few very fine roots; common distinct dark grayish brown (10YR 4/2) coatings of A horizon material on faces of peds; slightly acid; clear smooth boundary.

Bt1—10 to 17 inches; dark yellowish brown (10YR 4/4) silty clay loam; weak fine subangular blocky structure; friable; few very fine roots; common distinct brown (10YR 4/3) clay films on faces of peds; slightly acid; clear smooth boundary.
Bt2—17 to 23 inches; yellowish brown (10YR 5/6) silty clay loam; moderate fine angular and subangular blocky structure; friable; few very fine and medium roots; many distinct dark yellowish brown (10YR 4/4) and few distinct brown (10YR 4/3) clay films on faces of peds; slightly acid; clear smooth boundary.
BCt—23 to 27 inches; yellowish brown (10YR 5/6) silt loam; weak fine and medium subangular blocky structure; friable; few very fine roots; few distinct dark yellowish brown (10YR 4/4) clay films lining pores; neutral; clear smooth boundary.
C1—27 to 41 inches; 80 percent yellowish brown (10YR 5/6) and 20 percent light brownish gray (10YR 6/2) silt loam; massive; friable; few very fine roots; the light brownish gray matrix color is a relict feature; few fine and medium snail shells; strongly effervescent; slightly alkaline; clear smooth boundary.
C2—41 to 64 inches; 60 percent light brownish gray (10YR 6/2) and 40 percent yellowish brown (10YR 5/6) silt loam; massive; friable; few very fine roots; the light brownish gray matrix color is a relict feature; common fine and medium snail shells; strongly effervescent; moderately alkaline.

Range in Characteristics

Depth to the base of the diagnostic horizon: Typically 22 to 40 inches
Depth to carbonates: 22 to 40 inches
Other features: Some pedons have an EB or BE horizon.

Ap or A horizon(s):
Hue—10YR
Value—3 to 6
Chroma—2 to 4
Texture—silt loam

E horizon(s) (where present):
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam

Bt, BCt, or BC horizon(s):
Hue—10YR or 7.5YR
Value—4 or 5
Chroma—3 to 6
Texture—silty clay loam or silt loam

C horizon(s):
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 6
Texture—silt loam or silt

898F2—Hickory-Sylvan complex, 18 to 35 percent slopes, eroded

Setting

Landform: Ground moraines
Position on the landform: Backslopes

Map Unit Composition

Hickory and similar soils: 50 percent
Sylvan and similar soils: 35 percent
Dissimilar soils: 15 percent

Components of Minor Extent

Similar soils:
- Soils that have more clay in the lower part of the subsoil and in the underlying material
- Soils that have slopes of 10 to 18 percent
- Soils that have slopes of more than 35 percent
- Soils that have more clay in the surface layer

Dissimilar soils:
- The well drained Fayette and Rozetta soils that have slopes of less than 10 percent

Properties and Qualities of the Hickory Soil

Parent material: Till
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 2 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Sylvan Soil

Parent material: Loess
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 2 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Hickory—6e; Sylvan—6e

Prime farmland category: Not prime farmland
Hydric soil status: Hickory—not hydric; Sylvan—not hydric

Tallula Series

Taxonomic classification: Coarse-silty, mixed, superactive, mesic Typic Hapludolls

Typical Pedon

Tallula silt loam, in an area of Tallula-Bold silt loams, 10 to 18 percent slopes, eroded; at an elevation of 585 feet; Cass County, Illinois; 1,330 feet south and 154 feet east of the northwest corner of sec. 4, T. 17 N., R. 10 W.; USGS Virginia, Illinois, topographic quadrangle; lat. 39 degrees 57 minutes 26 seconds N. and long. 90 degrees 14 minutes 17 seconds W.; UTM Zone 15, 735911E 4426668N, NAD 83:

A1—0 to 4 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; strong fine granular structure; friable; common very fine roots; neutral; abrupt smooth boundary.
A2—4 to 10 inches; very dark grayish brown (10YR 3/2) silt loam, brown (10YR 5/3) dry; moderate fine and medium granular structure; friable; common very fine roots; neutral; clear smooth boundary.
Bw—10 to 16 inches; brown (10YR 4/3) silt loam; weak very fine and fine subangular blocky structure; friable; few very fine roots; many faint dark brown (10YR 3/3) organic coatings on faces of peds; neutral; clear smooth boundary.
Bt—16 to 26 inches; yellowish brown (10YR 5/4) silt loam; weak fine and medium subangular blocky structure; friable; few very fine roots; common faint brown (10YR 4/3) clay films on faces of peds; neutral; clear smooth boundary.
C1—26 to 30 inches; 80 percent pale brown (10YR 6/3) and 20 percent yellowish brown (10YR 5/6) silt loam; massive; friable; few very fine roots; slightly effervescent; slightly alkaline; clear smooth boundary.
C2—30 to 60 inches; 80 percent light brownish gray (10YR 6/2) and 20 percent yellowish brown (10YR 5/6) silt; massive; friable; few very fine roots; few fine black (10YR 2/1) masses of manganese accumulation; few fine carbonate masses; slightly effervescent; slightly alkaline.

Range in Characteristics

Depth to the base of the diagnostic horizon: 15 to 35 inches
Depth to carbonates: 15 to 35 inches
Thickness of the mollic epipedon: 7 to 15 inches

Ap or A horizon(s):
Hue—10YR
Value—2 or 3
Chroma—1 to 3
Texture—silt loam

Bw or Bt horizon(s):
Hue—10YR
Value—4 or 5
Chroma—3 or 4
Texture—silt loam

C horizon(s):
Hue—10YR
Value—5 or 6
Chroma—2 to 6
Texture—silt loam or silt

965C2—Tallula-Bold silt loams, 5 to 10 percent slopes, eroded

Setting

Landform: Ground moraines
Position on the landform: Shoulders and backslopes

Map Unit Composition

Tallula and similar soils: 55 percent
Bold and similar soils: 45 percent

Components of Minor Extent

Similar soils:
- Soils that have carbonates at a depth of more than 35 inches and have more clay in the subsoil
- Soils that have a seasonal high water table within a depth of 6 feet
- Soils that have more clay in the subsoil
- Soils that have slopes of more than 10 percent

Properties and Qualities of the Tallula Soil

Parent material: Loess
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 3 percent
Shrink-swell potential: Low
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Low for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Properties and Qualities of the Bold Soil

Parent material: Calcareous loess
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 13.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 2 percent
Shrink-swell potential: Low
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Low for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Tallula—3e; Bold—3e
Prime farmland category: Not prime farmland
Hydric soil status: Tallula—not hydric; Bold—not hydric

965D2—Tallula-Bold silt loams, 10 to 18 percent slopes, eroded

Setting

Landform: Ground moraines
Position on the landform: Backslopes

Map Unit Composition

Tallula and similar soils: 50 percent
Bold and similar soils: 40 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have carbonates at a depth of more than 35 inches and have more clay in the subsoil
- Soils that have more clay in the subsoil
- Soils that have slopes of less than 10 percent

Dissimilar soils:
- The well drained Osco soils on summits and shoulders

Properties and Qualities of the Tallula Soil

Parent material: Loess
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 3 percent
Shrink-swell potential: Low
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Low for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Bold Soil

Parent material: Calcareous loess
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 13.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 2 percent
Shrink-swell potential: Low

Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Low for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: Tallula—4e; Bold—4e
Prime farmland category: Not prime farmland
Hydric soil status: Tallula—not hydric; Bold—not hydric

Tama Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Argiudolls
Taxadjunct features: The Tama soils in map units 36C2, 36D2, and 737C2 have a thinner dark surface layer than is defined as the range for the series. This difference, however, does not significantly affect the use and management of the soils. These soils are classified as fine-silty, mixed, superactive, mesic Mollic Hapludalfs.

Typical Pedon

Tama silt loam, 2 to 5 percent slopes; at an elevation of 640 feet; Sangamon County, Illinois; about 1,600 feet south and 2,480 feet east of the northwest corner of sec. 34, T. 17 N., R. 3 W.; USGS Cornland, Illinois, topographic quadrangle; lat. 39 degrees 53 minutes 06 seconds N. and long. 89 degrees 24 minutes 55 seconds W.; UTM Zone 16, 293476E 4417786N, NAD 83:

Ap—0 to 11 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine granular structure; friable; few fine roots throughout; neutral; clear smooth boundary.
BA—11 to 19 inches; brown (10YR 4/3) silt loam; moderate medium subangular blocky structure parting to moderate fine subangular blocky; friable; few fine roots throughout; many distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; slightly acid; clear smooth boundary.
Bt1—19 to 30 inches; brown (10YR 4/3) silty clay loam; moderate fine prismatic structure parting to moderate fine subangular blocky; friable; few fine roots throughout; very few distinct very dark grayish brown (10YR 3/2) organic coatings along pores; many distinct dark brown (10YR 3/3) organo-clay films on faces of peds; slightly acid; gradual smooth boundary.
Bt2—30 to 39 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; friable; common fine roots throughout; many distinct brown (10YR 4/3) clay films on faces of peds; slightly acid; gradual smooth boundary.
Bt3—39 to 58 inches; yellowish brown (10YR 5/4) silty clay loam; weak medium prismatic structure; friable; few fine roots throughout; common distinct brown (10YR 4/3) clay films on faces of peds and few distinct brown (10YR 5/3) silt coatings on faces of peds; moderately acid; clear smooth boundary.
BC—58 to 65 inches; yellowish brown (10YR 5/4) silt loam; weak coarse prismatic structure; friable; few fine roots throughout; common distinct brown (10YR 4/3) clay films along pores and few distinct brown (10YR 5/3) silt coatings along pores; slightly acid; clear smooth boundary.

C—65 to 80 inches; 55 percent yellowish brown (10YR 5/4) and 43 percent brown (10YR 5/3) silt loam; massive; very friable; very few distinct brown (10YR 4/3) clay films along pores; few fine distinct yellowish brown (10YR 5/6) masses of iron accumulation along pores; slightly acid.

Range in Characteristics

Thickness of the mollic epipedon or dark surface soil: 7 to 20 inches
Depth to carbonates: 48 to more than 80 inches
Depth to the base of the diagnostic horizon: 36 to more than 60 inches
Other features: The Tama soils in map units 737A, 737B, and 737C2 have a sandy substratum within a depth of 80 inches. The characteristics of this layer are the same as those described for the 2C horizon(s) below.

Ap or A horizon(s):
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—silt loam

Bt horizon(s):
Hue—10YR
Value—4 or 5
Chroma—3 or 4
Texture—silty clay loam or silt loam

C horizon(s):
Hue—10YR
Value—4 or 5
Chroma—3 to 6
Texture—silt loam

2Bt or 2BC horizon(s) (where present):
Hue—10YR
Value—4 or 5
Chroma—3 to 6
Texture—loamy fine sand, fine sandy loam, loam, or clay loam

2C horizon(s) (where present):
Hue—10YR
Value—4 or 5
Chroma—3 to 6
Texture—fine sand, loamy sand, or loamy fine sand

36A—Tama silt loam, 0 to 2 percent slopes

Setting

Landform: Loess hills on ground moraines
Position on the landform: Summits

Map Unit Composition

Tama and similar soils: 100 percent

Components of Minor Extent

Similar soils:
- Soils that have a seasonal high water table within a depth of 6 feet
- Soils that have slopes of more than 2 percent

Properties and Qualities of the Tama Soil

Parent material: Loess
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 4 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

36B—Tama silt loam, 2 to 5 percent slopes

Setting

Landform: Loess hills on ground moraines
Position on the landform: Summits, backslopes, and shoulders

Map Unit Composition

Tama and similar soils: 100 percent

Components of Minor Extent

Similar soils:
- Soils that have slopes of less than 2 percent
- Soils that have slopes of more than 5 percent
- Soils that have a thinner dark surface soil
- Soils that have a seasonal high water table within a depth of 6 feet

Properties and Qualities of the Tama Soil

Parent material: Loess
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 4 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Low

Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

36C2—Tama silt loam, 5 to 10 percent slopes, eroded

Setting

Landform: Loess hills on ground moraines
Position on the landform: Shoulders and backslopes (fig. 7)

Map Unit Composition

Tama and similar soils: 100 percent

Components of Minor Extent

Similar soils:
- Soils that have a thicker dark surface soil
- Soils in which the surface layer contains more clay and is lighter in color
- Soils that have a seasonal high water table within a depth of 6 feet
- Soils that have carbonates at a depth of less than 48 inches

Properties and Qualities of the Tama Soil

Parent material: Loess
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 3 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

36D2—Tama silt loam, 10 to 18 percent slopes, eroded

Setting

Landform: Loess hills on ground moraines
Position on the landform: Backslopes

Map Unit Composition

Tama and similar soils: 100 percent

Components of Minor Extent

Similar soils:
- Soils that have a thicker dark surface soil
- Soils in which the surface layer contains more clay and is lighter in color
- Soils that have carbonates at a depth of less than 48 inches
- Soils that have slopes of less than 10 percent
- Soils that have a seasonal high water table within a depth of 6 feet

Properties and Qualities of the Tama Soil

Parent material: Loess
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 3 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

737A—Tama silt loam, very deep to sand, 0 to 2 percent slopes

Setting

Landform: Outwash plains
Position on the landform: Talfs (fig. 8)

Map Unit Composition

Tama and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have a seasonal high water table within a depth of 6 feet
- Soils that have more clay in the underlying material
- Soils that have more rock fragments in the underlying material
- Soils that have sandy material at a depth of less than 60 inches

Dissimilar soils:
- The somewhat poorly drained Elburn and Ipava soils in the slightly lower positions
- The poorly drained Knight soils in depressions

Properties and Qualities of the Tama Soil

Parent material: Very deep loess over sandy outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate to rapid
Depth to restrictive feature: 60 to 80 inches (strongly contrasting textural stratification)
Available water capacity: About 12.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 4 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

737B—Tama silt loam, very deep to sand, 2 to 5 percent slopes

Setting

Landform: Outwash plains
Position on the landform: Summits, shoulders, and backslopes (fig. 8)

Map Unit Composition

Tama and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have more clay in the underlying material
- Soils that have more rock fragments in the underlying material
- Soils that have slopes of less than 2 percent
- Soils that have a thinner dark surface soil
- Soils that have sandy material at a depth of less than 60 inches

Dissimilar soils:
- The somewhat poorly drained Elburn and Ipava soils in the lower positions

Properties and Qualities of the Tama Soil

Parent material: Very deep loess over sandy outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate to rapid
Depth to restrictive feature: 60 to 80 inches (strongly contrasting textural stratification)

Available water capacity: About 12.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3 to 4 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

737C2—Tama silt loam, very deep to sand, 5 to 10 percent slopes, eroded

Setting

Landform: Outwash plains
Position on the landform: Shoulders and backslopes

Map Unit Composition

Tama and similar soils: 100 percent

Components of Minor Extent

Similar soils:
- Soils that have more clay in the underlying material
- Soils that have more rock fragments in the underlying material
- Soils that have slopes of less than 5 percent
- Soils in which the surface layer has more clay and is lighter in color
- Soils that have sandy material at a depth of less than 60 inches

Properties and Qualities of the Tama Soil

Parent material: Very deep loess over sandy outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate to rapid
Depth to restrictive feature: 60 to 80 inches (strongly contrasting textural stratification)
Available water capacity: About 11.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 3 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

Thebes Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Hapludalfs

Typical Pedon

Thebes silt loam, 5 to 10 percent slopes; at an elevation of about 670 feet; Mercer County, Illinois; about 1,060 feet west and 1,800 feet south of the northeast corner of sec. 3, T. 13 N., R. 3 W.; USGS Aledo East topographic quadrangle; lat. 41 degrees 09 minutes 02 seconds N. and long. 90 degrees 42 minutes 30 seconds W.; UTM Zone 15, 692289E 4558005N, NAD 83:

Ap—0 to 9 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; moderate medium granular structure; friable; slightly acid; clear smooth boundary.

Bt1—9 to 14 inches; yellowish brown (10YR 5/4) silty clay loam; weak fine and medium subangular blocky structure; friable; few distinct brown (10YR 5/3) clay films on faces of peds and in pores; strongly acid; clear wavy boundary.

Bt2—14 to 26 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium subangular blocky structure; friable; common distinct brown (10YR 4/3) clay films on faces of peds and in pores; moderately acid; clear wavy boundary.

Bt3—26 to 31 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium subangular blocky structure; friable; common distinct brown (10YR 4/3) clay films on faces of peds and in pores; few medium faint pale brown (10YR 6/3) and few medium distinct strong brown (7.5YR 4/6) masses of iron and manganese accumulation in the matrix; slightly acid; clear wavy boundary.

2Bt4—31 to 40 inches; dark yellowish brown (10YR 4/4) loam; moderate medium subangular blocky structure; friable; few distinct brown (10YR 4/3) clay films on faces of peds and in pores; common coarse faint pale brown (10YR 6/3) and common coarse distinct strong brown (7.5YR 4/6) masses of iron and manganese accumulation in the matrix; slightly acid; clear wavy boundary.

2BC—40 to 50 inches; 55 percent yellowish brown (10YR 5/4) and 43 percent brown (7.5YR 4/4), stratified sandy loam and loamy sand; weak medium subangular blocky structure; friable; few medium distinct pale brown (10YR 6/3) masses of iron and manganese accumulation in the matrix; moderately acid; clear wavy boundary.

2C—50 to 80 inches; dark yellowish brown (10YR 4/4), stratified loamy sand and sand; single grain; loose; common medium and coarse faint brown (7.5YR 4/4) masses of iron and manganese accumulation in the matrix; slightly acid.

Range in Characteristics

Thickness of the loess or other silty material: 20 to 40 inches
Depth to the base of the diagnostic horizon: 25 to 55 inches

Ap or A horizon(s):
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam

E horizon(s) (where present):
Hue—10YR
Value—4 or 5
Chroma—3 to 6
Texture—silt loam

Bt horizon(s):
Hue—10YR or 7.5YR
Value—4 or 5
Chroma—3 to 6
Texture—silty clay loam or silt loam

2Bt horizon(s):
Hue—10YR or 7.5YR
Value—4 or 5
Chroma—4 to 6
Texture—loam, sandy loam, fine sandy loam, sandy clay loam, or clay loam

2BC horizon(s) (where present):
Hue—10YR or 7.5YR
Value—4 or 5
Chroma—4 to 6
Texture—sandy loam, loamy sand, or sand

2C horizon(s):
Hue—10YR or 7.5YR
Value—4 to 6
Chroma—3 to 6
Texture—stratified loamy sand, fine sand, loamy fine sand, or sand; strata of nonsandy textures in the lower part in some pedons

212C2—Thebes silt loam, 5 to 10 percent slopes, eroded

Setting

Landform: Ground moraines and knolls
Position on the landform: Summits and backslopes (fig. 5)

Map Unit Composition

Thebes and similar soils: 95 percent
Dissimilar soils: 5 percent

Components of Minor Extent

Similar soils:
- Soils that have sandy material starting at a depth of more than 40 inches
- Soils that have more sand in the surface soil and in the upper part of the subsoil
- Soils that have more clay in the surface layer
- Soils that have slopes of less than 5 percent
- Soils that have slopes of more than 10 percent

Dissimilar soils:
- The somewhat excessively drained Bloomfield soils in positions similar to those of the Thebes soil

Properties and Qualities of the Thebes Soil

Parent material: Loess over eolian sands
Drainage class: Well drained

Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1 to 2 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

Thorp Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Argiaquic Argialbolls

Typical Pedon

Thorp silt loam, 0 to 2 percent slopes; at an elevation of about 640 feet; La Salle County, Illinois; 990 feet north and 2,240 feet west of the southeast corner of sec. 27, T. 36 N., R. 5 E.; USGS Sheridan, Illinois, topographic quadrangle; lat. 41 degrees 33 minutes 42 seconds N. and long. 88 degrees 38 minutes 49 seconds W.; UTM Zone 16, 362665E 4602414N, NAD 83:

Ap—0 to 7 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; moderate very fine granular structure; friable; neutral; abrupt smooth boundary.
A—7 to 14 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; moderate fine granular structure; friable; slightly acid; abrupt smooth boundary.
Eg—14 to 19 inches; dark gray (10YR 4/1) silt loam, gray (10YR 6/1) dry; weak fine granular structure; friable; few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; moderately acid; clear smooth boundary.
Btg1—19 to 21 inches; dark gray (10YR 4/1) and dark grayish brown (2.5Y 4/2) silty clay loam; weak fine prismatic structure parting to moderate fine subangular blocky; firm; many distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; moderately acid; clear smooth boundary.
Btg2—21 to 33 inches; gray (5Y 5/1) and olive gray (5Y 4/2) silty clay loam; moderate medium prismatic structure parting to moderate fine and medium subangular blocky; firm; many distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; many fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; moderately acid; clear smooth boundary.
Btg3—33 to 43 inches; grayish brown (2.5Y 5/2) silty clay loam; weak fine prismatic structure parting to moderate fine angular and subangular blocky; firm; many distinct very dark gray (10YR 3/1) organo-clay films and dark gray (N 4/) clay films on faces of peds; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation and distinct light yellowish brown (2.5Y 6/4) masses of iron and manganese accumulation in the matrix; slightly acid; clear smooth boundary.

2Btg4—43 to 50 inches; grayish brown (10YR 5/2) and yellowish brown (10YR 5/6) sandy clay loam; weak coarse subangular blocky structure; friable; few distinct dark grayish brown (2.5Y 4/2) clay films on faces of peds; neutral; clear smooth boundary.
2Cg—50 to 65 inches; mixed grayish brown (10YR 5/2) and yellowish brown (10YR 5/8) sandy loam with thin strata of sand; friable in the sandy loam; loose in the sand; strongly effervescent; moderately alkaline.

Range in Characteristics

Depth to the base of the diagnostic horizon: 40 to 65 inches
Thickness of the mollic epipedon: 10 to 14 inches
Depth to carbonates: More than 40 inches

Ap or A horizon(s):
Hue—10YR
Value—2 or 3
Chroma—1 to 3
Texture—silt loam

Eg horizon(s):
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 or 2
Texture—silt loam

Btg horizon(s):
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 or 2
Texture—typically silty clay loam; silt loam in some subhorizons of some pedons

2Btg and/or 2BCg horizon(s):
Hue—10YR, 2.5Y, 5Y, or N
Value—4 to 6
Chroma—0 to 8
Texture—sandy clay loam, loam, clay loam, silt loam, or sandy loam; strata of silty clay loam, loamy sand, or sand in some pedons

2Cg horizon(s):
Hue—10YR, 2.5Y, 5Y, or N
Value—4 to 6
Chroma—0 to 8
Texture—stratified sandy loam, sandy clay loam, clay loam, loam, silt loam, and silty clay loam; thin strata of sand or loamy sand in some pedons

206A—Thorp silt loam, 0 to 2 percent slopes

Setting

Landform: Depressions

Map Unit Composition

Thorp and similar soils: 100 percent

Components of Minor Extent

Similar soils:
- Soils that have more clay in the subsoil

- Soils that have less than 10 percent sand to a depth of more than 54 inches
- Soils that have more clay in the surface layer and have a darker subsurface layer
- Soils that have a seasonal high water table at a depth of more than 1 foot

Properties and Qualities of the Thorp Soil

Parent material: Loess over outwash
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11 inches to a depth of 60 inches
Content of organic matter in the surface layer: 4 to 6 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: At the surface to 1 foot below the surface
Ponding: At the surface to 0.5 foot above the surface
Flooding: None
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland where drained
Hydric soil status: Hydric

Tice Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Fluvaquentic Hapludolls

Typical Pedon

Tice silty clay loam, 0 to 2 percent slopes, occasionally flooded; at an elevation of about 465 feet; Adams County, Illinois; 1,670 feet north and 990 feet west of the southeast corner of sec. 22, T. 2 S., R. 9 W.; USGS Quincy West, Illinois, topographic quadrangle; lat. 39 degrees 52 minutes 56 seconds N. and long. 91 degrees 25 minutes 08 seconds W.; UTM Zone 15, 635209E 4415887N, NAD 83:

Ap—0 to 9 inches; very dark grayish brown (10YR 3/2) silty clay loam, grayish brown (10YR 5/2) dry; weak fine subangular blocky structure parting to weak medium granular; firm; common very fine roots throughout; neutral; abrupt smooth boundary.

A—9 to 14 inches; very dark grayish brown (10YR 3/2) silty clay loam, grayish brown (10YR 5/2) dry; moderate fine subangular blocky structure; firm; few very fine roots throughout; few fine faint brown (10YR 4/3) masses of iron and manganese accumulation in the matrix; neutral; clear smooth boundary.

BA—14 to 19 inches; dark grayish brown (10YR 4/2) silty clay loam; weak fine prismatic structure parting to moderate fine subangular blocky; firm; few very fine roots throughout; common distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; common fine faint brown (7.5YR 4/3) masses of iron and manganese accumulation in the matrix; few fine faint grayish brown (10YR 5/2) iron depletions in the matrix; neutral; clear smooth boundary.

Bw—19 to 35 inches; brown (10YR 4/3) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; firm; few very fine roots

throughout; common distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; many medium prominent strong brown (7.5YR 4/6) masses of iron and manganese accumulation in the matrix; few fine faint grayish brown (10YR 5/2) iron depletions in the matrix; moderately acid; clear smooth boundary.

Bg1—35 to 44 inches; dark grayish brown (10YR 4/2) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; firm; few very fine roots throughout; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds; many medium prominent strong brown (7.5YR 4/6) masses of iron and manganese accumulation in the matrix; moderately acid; gradual smooth boundary.

Bg2—44 to 61 inches; dark grayish brown (2.5Y 4/2) silty clay loam; weak medium prismatic structure; firm; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds; common medium prominent strong brown (7.5YR 4/6) masses of iron and manganese accumulation in the matrix; slightly acid; clear smooth boundary.

Bg3—61 to 80 inches; dark grayish brown (2.5Y 4/2) silty clay loam; weak medium prismatic structure; firm; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds; common medium prominent strong brown (7.5YR 4/6) masses of iron and manganese accumulation in the matrix; slightly acid.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 24 inches

Depth to the base of the diagnostic horizon: 30 to more than 80 inches

Other features: Some pedons have an AB or BA horizon. Also, the Tice soil in map unit 3284S has a sandy substratum within a depth of 80 inches. The characteristics of this layer are the same as those described for the 2Cg or 2C horizon(s) below.

Ap or A horizon(s):
- Hue—10YR
- Value—2 or 3
- Chroma—1 or 2
- Texture—silty clay loam

Bw or Bg horizon(s):
- Hue—10YR or 2.5Y
- Value—4 or 5
- Chroma—2 to 4
- Texture—silty clay loam or silt loam

BC or BCg horizon(s) (where present):
- Hue—10YR, 2.5Y, or 5Y
- Value—4 or 5
- Chroma—1 to 4
- Texture—silty clay loam or silt loam; strata of loam, clay loam, or sandy loam in some pedons

Cg or C horizon(s) (where present):
- Hue—10YR, 2.5Y, or 5Y
- Value—4 to 6
- Chroma—1 to 3
- Texture—stratified silty clay loam, clay loam, loam, sandy loam, or silt loam

2Cg or 2C horizon(s) (where present):
- Hue—10YR, 2.5Y, or 5Y
- Value—4 to 6
- Chroma—1 to 4
- Texture—fine sand, sand, loamy fine sand, or loamy sand

3284A—Tice silty clay loam, 0 to 2 percent slopes, frequently flooded

Setting

Landform: Flood plains

Map Unit Composition

Tice and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have a dark surface soil more than 24 inches thick
- Soils that have more sand in the surface soil and in the subsoil
- Soils that have less clay in the surface soil and in the subsoil
- Soils that have more sand in the underlying material

Dissimilar soils:
- The well drained Ross, Landes, and Huntsville soils in the slightly higher positions
- The poorly drained Sawmill soils in swales

Properties and Qualities of the Tice Soil

Parent material: Alluvium
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 4 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: 1 to 2 feet below the surface
Frequency and most likely period of flooding: Frequent, November to June
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Prime farmland where protected from flooding or not frequently flooded during the growing season
Hydric soil status: Not hydric

3284S—Tice silty clay loam, sandy substratum, 0 to 2 percent slopes, frequently flooded

Setting

Landform: Flood plains

Map Unit Composition

Tice and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have a dark surface soil more than 24 inches thick
- Soils that have more sand in the surface soil and in the subsoil
- Soils that have less clay in the surface soil and in the subsoil
- Soils that have less sand in the underlying material

Dissimilar soils:
- The well drained Huntsville, Landes, and Ross soils in the slightly higher positions
- The poorly drained Sawmill soils in swales

Properties and Qualities of the Tice Soil

Parent material: Alluvium over sandy sediments
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately rapid or rapid
Depth to restrictive feature: 40 to 60 inches (strongly contrasting textural stratification)
Available water capacity: About 11.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 4 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: 1 to 2 feet below the surface
Frequency and most likely period of flooding: Frequent, November to June
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Prime farmland where protected from flooding or not frequently flooded during the growing season
Hydric soil status: Not hydric

8284A—Tice silty clay loam, 0 to 2 percent slopes, occasionally flooded

Setting

Landform: Flood plains

Map Unit Composition

Tice and similar soils: 90 percent
Dissimilar soils: 10 percent

Components of Minor Extent

Similar soils:
- Soils that have a dark surface soil more than 24 inches thick
- Soils that have a buried soil at a depth of 20 to 40 inches
- Soils that have more sand throughout
- Soils that have less clay in the surface soil and in the subsoil

Dissimilar soils:
- The poorly drained Sawmill soils in swales

Properties and Qualities of the Tice Soil

Parent material: Alluvium
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2 to 4 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table: 1 to 2 feet below the surface
Frequency and most likely period of flooding: Occasional, November to June
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland category: Prime farmland
Hydric soil status: Not hydric

533—Urban land

- This map unit consists of areas covered by parking lots, streets, buildings, and other structures.

Map Unit Composition

Urban land: 90 percent
Dissimilar components: 10 percent

Components of Minor Extent

Dissimilar components:
- The well drained, loamy Orthents in open areas
- Small areas of natural soils

Interpretive Groups

Land capability classification: None assigned
Prime farmland category: Not prime farmland
Hydric soil status: Not applicable

W—Water

- This map unit consists of streams, lakes, ponds, and estuaries. These areas are covered with water in most years, at least during the period that is warm enough for the growth of plants. Many areas are covered throughout the year.

Wyanet Series

Taxonomic classification: Fine-loamy, mixed, active, mesic Mollic Hapludalfs
Taxadjunct features: The Wyanet soils in this survey area have a thinner dark surface

layer than is defined as the range for the series. This difference, however, does not significantly affect the use and management of these soils.

Typical Pedon

Wyanet silt loam, 5 to 10 percent slopes, eroded; at an elevation of about 704 feet; Bureau County, Illinois; approximately 276 feet south and 2,146 feet east of the northwest corner of sec. 11, T. 16 N., R. 7 E.; USGS Manlius, Illinois, topographic quadrangle; lat. 41 degrees 23 minutes 36 seconds N. and long. 89 degrees 39 minutes 27 seconds W.; UTM Zone 16, 277816E 4585835N, NAD 83:

Ap—0 to 8 inches; mixed very dark grayish brown (10YR 3/2) and dark yellowish brown (10YR 4/4) silt loam, dark grayish brown (10YR 4/2) dry; moderate medium granular structure; friable; many fine roots; slightly acid; abrupt smooth boundary.

Bt1—8 to 16 inches; dark yellowish brown (10YR 4/4) clay loam; moderate fine subangular blocky structure; friable; common fine roots; many distinct brown (10YR 4/3) clay films and few distinct dark brown (10YR 3/3) organic coatings on faces of peds; 1 percent gravel; slightly acid; clear smooth boundary.

Bt2—16 to 26 inches; brown (7.5YR 4/4) clay loam; moderate medium subangular blocky structure; friable; common fine roots; many distinct brown (7.5YR 4/4) clay films on faces of peds; 1 percent gravel; neutral; clear smooth boundary.

BCt—26 to 34 inches; brown (7.5YR 5/4) loam; weak medium subangular blocky structure; friable; few fine roots; few distinct brown (7.5YR 4/4) clay films on faces of peds; 1 percent gravel; slightly effervescent; slightly alkaline; gradual smooth boundary.

C—34 to 60 inches; brown (7.5YR 5/4) loam; massive; friable; few fine roots; 1 percent gravel; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the dark surface layer: 7 to 10 inches
Thickness of the loess: 0 to 18 inches
Depth to carbonates: 20 to 40 inches
Depth to the base of the diagnostic horizon: 24 to 40 inches

Ap horizon:
Hue—10YR
Value—2 or 3
Chroma—1 to 3
Texture—silt loam
Content of rock fragments—0 to 4 percent

Bt horizon(s):
Hue—7.5YR, 10YR, or 2.5Y
Value—4 or 5
Chroma—4 to 6
Texture—silty clay loam or clay loam
Content of rock fragments—0 to 10 percent

BCt, BC, or C horizon(s):
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 7
Chroma—3 or 4
Texture—loam
Content of rock fragments—0 to 10 percent

622C2—Wyanet silt loam, 5 to 10 percent slopes, eroded

Setting

Landform: Ground moraines and end moraines
Position on the landform: Backslopes

Map Unit Composition

Wyanet and similar soils: 100 percent

Components of Minor Extent

Similar soils:
- Soils in which the surface layer has more clay and is lighter in color
- Soils that have a seasonal high water table within a depth of 6 feet
- Soils that have less sand in the surface layer and in the upper part of the subsoil
- Soils that have slopes of less than 5 percent

Properties and Qualities of the Wyanet Soil

Parent material: Till
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.5 to 3.5 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

622D2—Wyanet silt loam, 10 to 18 percent slopes, eroded

Setting

Landform: Ground moraines and end moraines
Position on the landform: Backslopes

Map Unit Composition

Wyanet and similar soils: 100 percent

Components of Minor Extent

Similar soils:
- Soils in which the surface layer has more clay and is lighter in color
- Soils that have a seasonal high water table within a depth of 6 feet

- Soils that have less sand in the surface layer and in the upper part of the subsoil
- Soils that have slopes of less than 10 percent

Properties and Qualities of the Wyanet Soil

Parent material: Till
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.5 to 3.5 percent
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet below the surface
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland category: Not prime farmland
Hydric soil status: Not hydric

Zook Series

Taxonomic classification: Fine, smectitic, mesic Cumulic Vertic Endoaquolls

Typical Pedon

Zook silty clay loam, 0 to 2 percent slopes, frequently flooded; at an elevation of about 600 feet; Warren County, Illinois; about 2,640 feet west and 1,200 feet south of the northeast corner of sec. 22, T. 12 N., R. 3 W.; USGS Little York topographic quadrangle; lat. 41 degrees 01 minute 14 seconds N. and long. 90 degrees 43 minutes 03 seconds W.; UTM Zone 15, 691898E 4543552N, NAD 83:

Ap—0 to 8 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate fine granular structure; friable; many fine roots; slightly acid; clear smooth boundary.

A—8 to 22 inches; very dark gray (N 3/) silty clay, gray (N 5/) dry; moderate fine subangular blocky structure; firm; common medium and many fine roots; slightly acid; clear smooth boundary.

Bg1—22 to 38 inches; very dark gray (10YR 3/1) silty clay, gray (10YR 5/1) dry; weak fine prismatic structure parting to moderate fine subangular and angular blocky; firm; common fine and medium and few coarse roots; few fine prominent strong brown (7.5YR 5/6) masses of iron accumulation; neutral; clear wavy boundary.

Bg2—38 to 55 inches; dark gray (5Y 4/1) silty clay; weak medium prismatic structure parting to moderate fine subangular and angular blocky; firm; common fine and medium and few coarse roots; common faint very dark gray (5Y 3/1) organic coatings in root channels and krotovinas; common medium faint olive gray (5Y 5/2) iron depletions and common medium prominent strong brown (7.5YR 5/6) masses of iron accumulation; neutral; clear wavy boundary.

BCg—55 to 60 inches; olive gray (5Y 5/2) silty clay loam; weak fine and medium subangular blocky structure; firm; few medium and coarse and common fine roots; common faint gray (5Y 5/1) organic coatings in root channels and on faces of peds; common medium prominent strong brown (7.5YR 5/6) masses of iron accumulation; neutral.

Range in Characteristics

Thickness of the mollic epipedon: 36 to more than 60 inches

Ap or A horizon(s):
Hue—10YR or N
Value—2 or 3
Chroma—0 or 1
Texture—silty clay loam or silty clay

Bg horizon(s):
Hue—10YR, 2.5Y, or 5Y
Value—2 to 5
Chroma—1
Texture—silty clay loam or silty clay

BCg and/or Cg horizon(s) (where present):
Hue—10YR, 2.5Y, or 5Y
Value—2 to 5
Chroma—1 or 2
Texture—silty clay, silty clay loam, or silt loam

3405A—Zook silty clay loam, 0 to 2 percent slopes, frequently flooded

Setting

Landform: Flood plains

Map Unit Composition

Zook and similar soils: 95 percent
Dissimilar soils: 5 percent

Components of Minor Extent

Similar soils:
- Soils that have a dark surface soil less than 36 inches thick
- Soils that have less clay in the surface soil and in the subsoil
- Soils that have a seasonal high water table at a depth of more than 1 foot
- Soils that have more sand in the lower part of the subsoil and in the underlying material

Dissimilar soils:
- The well drained Huntsville and Ross soils in the slightly higher positions

Properties and Qualities of the Zook Soil

Parent material: Clayey alluvium
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.1 inches to a depth of 60 inches

Content of organic matter in the surface layer: 4 to 5 percent
Shrink-swell potential: High
Apparent seasonal high water table: At the surface to 1 foot below the surface
Ponding: At the surface to 0.5 foot above the surface
Frequency and most likely period of flooding: Frequent, November to June
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: 3w
Prime farmland category: Prime farmland where drained and either protected from flooding or not frequently flooded during the growing season
Hydric soil status: Hydric

Use and Management of the Soils

This soil survey is an inventory and evaluation of the soils in the survey area. It can be used to adjust land uses to the limitations and potentials of natural resources and the environment. Also, it can help to prevent soil-related failures in land uses.

In preparing a soil survey, soil scientists, conservationists, engineers, and others collect extensive field data about the nature and behavioral characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis in predicting soil behavior.

Information in this section can be used to plan the use and management of soils for crops and pasture; as forestland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational facilities; and as wildlife habitat. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment in all or part of the survey area. The survey can help planners to maintain or create a land use pattern in harmony with the natural soil.

Contractors can use this survey to locate sources of sand and gravel, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, campgrounds, playgrounds, lawns, and trees and shrubs.

Interpretive Ratings

The interpretive tables in this survey rate the soils in the survey area for various uses. Many of the tables identify the limitations that affect specified uses and indicate the severity of those limitations. The ratings in these tables are both verbal and numerical.

Rating Class Terms

Rating classes are expressed in the tables in terms that indicate the extent to which the soils are limited by all of the soil features that affect a specified use or in terms that indicate the suitability of the soils for the use. Thus, the tables may show limitation classes or suitability classes. Terms for the limitation classes include *not limited, somewhat limited,* and *very limited*. The suitability ratings are expressed as *well suited, moderately suited, poorly suited,* and *unsuited* or as *good, fair,* and *poor*.

Numerical Ratings

Numerical ratings in the tables indicate the relative severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate

gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation. The limitations appear in order from the most limiting to the least limiting. Thus, if more than one limitation is identified, the most severe limitation is listed first and the least severe one is listed last.

Crops and Pasture

General management needed for crops and pasture is suggested in this section. The estimated yields of the main crops and pasture plants are listed, the system of land capability classification used by the Natural Resources Conservation Service is explained, and prime farmland is described.

Planners of management systems for individual fields or farms should consider the detailed information given in the description of each soil under the heading “Soil Series and Detailed Soil Map Units.” Specific information can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

In 2002, a total of 342,890 acres in Logan County was cropland (USDA, 2002). The major row crops are corn and soybeans. Wheat is the major small grain crop grown. The soils in Logan County have good potential for continued crop production, especially if the latest crop production technology is applied.

Limitations Affecting Cropland and Pastureland

The management concerns affecting the use of the detailed soil map units in the survey area for crops and pasture are shown in table 6.

Cropland

The main concerns affecting the management of cropland in Logan County include crusting, excessive permeability, flooding, ponding, poor tilth, water erosion, and wetness. Other concerns include excess lime, high pH, limited available water capacity, and wind erosion.

Crusting occurs when flowing water or raindrops break down soil structural units, moving clay downward and leaving a concentration of sand and silt particles on the soil surface. Crusts can reduce water infiltration, increase runoff, inhibit seedling emergence and proper growth, and reduce oxygen diffusion to seedlings. Practices that help to minimize surface crusting and improve tilth are those that protect the surface from the impact of raindrops and from flowing water. Incorporating green manure crops, manure, or crop residue into the soil and using a system of conservation tillage help to prevent crusting and improve tilth.

Excessive permeability can occur in soils that have a high content of sand in the surface layer and thus have many pores of large diameter. The capacity of these soils to retain moisture for use by plants is restricted. Deep leaching of nutrients and pesticides can occur, and the risk of ground-water pollution is a concern. Irrigation can be used to supply the moisture needed for crops. Frequent applications of a small amount of fertilizer are needed. One large application of fertilizer can result in excessive loss of plant nutrients through leaching.

Flooding occurs in unprotected areas along the major rivers and their tributaries. Levees or diversions reduce the extent of crop damage caused by floodwater. Surface drainage ditches can be used to improve drainage if suitable outlets are available. Management of drainage in conformance with regulations influencing wetlands may require special permits and extra planning. Selecting crop varieties adapted to a shorter growing season and wetter conditions can help to minimize the extent of damage caused by flooding.

Ponding occurs when the seasonal high water table is above the surface of the soil. Land grading helps to control ponding. Surface ditches and surface inlet tile also help to remove excess water if suitable outlets are available. Management of drainage in conformance with regulations influencing wetlands may require special permits and extra planning.

Poor tilth can occur in soils because of erosion, when part of the subsoil is incorporated into the plow layer. The erosion reduces the content of organic matter and increases the clay content in the surface soil. Intensive rainfall often results in the formation of a crust on the surface. Poor tilth also occurs in poorly drained soils that have a high clay content, regardless of organic matter content, and in soils that have been excessively tilled. Poor tilth reduces the rate of water infiltration and increases the runoff rate and the susceptibility to erosion on the more sloping soils. Soils with poor tilth generally have a surface layer that is sticky when wet and hard and cloddy when dry. Because these soils can be tilled only within a narrow range in moisture content, seedbed preparation is difficult. Minimizing tillage and timing conservation tillage operations to near optimal soil moisture conditions can improve tilth. Regularly returning crop residue to the soil and adding other organic material can also improve tilth.

Water erosion reduces the stability of soil aggregates and thus reduces the rate of water infiltration and increases the rate of surface runoff. Soils with long or steep slopes are particularly susceptible to water erosion. Sheet and rill erosion is a hazard in areas where slopes are long or are subject to concentrated flow. It removes the surface soil, which commonly has the highest amount of biological activity and the highest content of organic matter. As a result, the productivity of the soil is reduced. Poor tilth and crusting can occur when the subsoil, which generally has a higher content of clay than the surface soil, is incorporated through tillage into the plow layer. Excessive runoff reduces the quality of surface water through sedimentation and contamination by agricultural chemicals attached to soil particles in the sediment. Sediment then enters streams, rivers, water impoundments, and road ditches and reduces the quality of surface water. Erosion can be controlled by a conservation tillage system that leaves crop residue on the surface after planting or by a cropping system that rotates grasses and legumes in the cropping sequence. On soils with long, uniform slopes, contour farming and/or terraces in combination with a conservation tillage system can help to control erosion (fig. 9).

Wetness occurs when the seasonal high water table is at or near the surface. Subsurface tile drains can lower the seasonal high water table if suitable outlets are available. In soils that have restricted permeability and a high content of clay, subsurface drainage may not be practical. In areas of these soils, surface ditches may reduce the wetness. Management of drainage in conformance with regulations influencing wetlands may require special permits and extra planning.

Excess lime occurs in soils that contain a high content of calcium carbonate at or near the surface or in the upper part of the subsoil. This limitation affects the availability of many plant nutrients and influences the effectiveness of herbicides. More frequent applications of a small amount of fertilizer are needed to correct nutrient imbalances. Crops may respond well to additions of phosphate fertilizer on these soils. The applications of herbicides should be adjusted as the level of alkalinity increases. Incorporating green manure crops, manure, or crop residue into the soil, applying a system of conservation tillage, and using conservation cropping systems also help to overcome this limitation.

High pH refers to a pH of 7.4 or more. This limitation affects the availability of many plant nutrients and influences the effectiveness of herbicides. More frequent applications of a small amount of fertilizer are needed to correct nutrient imbalances. Crops may respond well to additions of phosphate fertilizer on these soils. The applications of herbicides should be adjusted as the level of alkalinity increases.



Figure 9.—Water- and sediment-control basins and crop residue management (no-till farming) help to control erosion in an area of the strongly sloping Tallula and Bold soils.

Incorporating green manure crops, manure, or crop residue into the soil, applying a system of conservation tillage, and using conservation cropping systems also help to overcome this limitation.

Limited available water capacity can occur in soils that have a high content of sand, a low content of clay, and a low content of organic matter. Reducing the evaporation and runoff rates and increasing the rate of water infiltration can conserve soil moisture. Measures that conserve soil moisture include applying conservation tillage and conservation cropping systems, establishing field windbreaks, and leaving crop residue on the surface.

Wind erosion can occur when the surface of the soil is not protected. Wind erosion can be controlled by applying a system of conservation tillage that leaves crop residue on the surface after planting, by using tillage systems that leave the surface rough, by establishing field windbreaks, and by regularly adding organic material to the soil.

The following paragraphs provide explanations of the criteria used to determine the limitations or hazards.

Crusting.—The average content of organic matter in the surface layer is 2.5 percent or less, and the content of clay is between 20 and 35 percent.

Excess lime.—The upper limit of the calcium carbonate equivalent is 15 percent or more within a depth of 20 inches.

Excessive permeability.—The lower limit of the permeability rate is more than 6.0 inches per hour within the soil profile.

Flooding.—The soil is subject to occasional or frequent flooding.

High pH.—The lower limit of pH within a depth of 40 inches is 7.4 or more.

Limited available water capacity.—The available water capacity calculated to a depth of 60 inches or to a root-restricting layer is less than 6 inches.

Ponding.—The upper limit of the ponding depth is greater than 0 inches.

Poor tilth.—The content of clay in the surface layer is 27 percent or more.

Water erosion.—The Kw factor multiplied by the slope is 0.8 or more, and the slope is 3 percent or more.

Wetness.—The seasonal high water table is within a depth of 1.5 feet at some time during the growing season in normal years.

Wind erosion.—The wind erodibility group (WEG) is 1 or 2.

Erosion factors (for example, the Kw factor) and wind erodibility groups are described under the heading "Physical Properties."

Pastureland

The main management concerns affecting pastureland in Logan County are excessive permeability, high pH, low fertility, low pH, and water erosion. Other concerns include equipment limitations, excess lime, flooding, frost heave, limited available water capacity, ponding, poor tilth, wetness, and wind erosion.

Excessive permeability can occur in soils that have a high content of sand and thus have many large pores. The capacity of these soils to retain moisture for plant use is limited. The deep leaching of nutrients and pesticides that can result can increase the risk of ground-water pollution. Irrigation can be used to supply the moisture needed for plant growth. Frequent applications of a small amount of fertilizer are needed. A single large application of fertilizer can result in excessive loss of plant nutrients through leaching.

High pH refers to a pH of 7.4 or more. This limitation affects the availability of many nutrients for plant growth. More frequent applications of a small amount of fertilizer are needed to correct nutrient imbalances. Selecting adapted forage and hay varieties helps to overcome this limitation.

Low fertility occurs in soils that have a low content of organic matter and a low cation-exchange capacity. The capacity of the soil to retain nutrients for plant use is limited. Frequent applications of small amounts of fertilizer help to prevent excessive loss of plant nutrients through leaching. Using legumes as part of a seeding mixture can provide nitrogen to the grass varieties. Timely deferment of grazing helps to maintain a cover of vegetation on the surface and thus helps to maintain the content of organic matter. Organic matter is a source of nutrients in the soil.

Low pH refers to a pH of 5.5 or less. This limitation can reduce the solubility and availability of nutrients for plant growth. Selecting adapted forage and hay varieties and applying lime according to the results of soil tests can help to overcome this limitation.

Water erosion can occur in overgrazed areas or during pasture establishment and renovation if the surface is not protected against the impact of raindrops. Erosion results in poor tilth, which reduces the rate of water infiltration and increases the runoff rate. Soils with long or steep slopes are particularly susceptible to water erosion. Erosion can be controlled by deferring grazing, which prevents overgrazing and thus also helps to prevent surface compaction and excessive runoff and erosion. Tilling on the contour, using a no-till system of seeding when a seedbed is prepared or the pasture is renovated, and selecting adapted forage and hay varieties also help to control erosion.

Equipment limitations occur in areas that have slopes of more than 18 percent. These limitations can cause rapid wear of equipment. They can also present problems with fertilization, harvest, pasture renovation, and seedbed preparation. They cannot be easily overcome.

Excess lime occurs in soils that contain a high content of calcium carbonate at or near the surface or in the upper part of the subsoil. This limitation affects the availability of many plant nutrients for plant growth. More frequent applications of a small amount of fertilizer are needed to correct nutrient imbalances. Selecting adapted forage and hay varieties helps to overcome this limitation.

Flooding occurs in unprotected areas along the major rivers and their tributaries. Surface drainage ditches help to remove floodwater if suitable outlets are available. Management of drainage in conformance with regulations influencing wetlands may require special permits and extra planning. Selecting forage and hay varieties adapted to a shorter growing season and wetter conditions can also minimize the damage

caused by flooding. Restricted use during wet periods helps to keep the pasture in good condition.

Frost heave occurs when ice lenses or bands develop in the soil and drive an ice wedge between two layers of soil near the surface layer. The ice wedges heave the overlying soil layer upward, snapping the roots. Soils in which the texture is low in sand have small pores that hold water and enable ice lenses to form. Selecting adapted forage and hay varieties can reduce the effects of frost heave. Timely deferment of grazing helps to maintain a vegetative cover on the surface. The vegetative cover insulates the soil and thus reduces the effects of frost heave.

A limited available water capacity can occur in soils that have a high content of sand, a low content of clay, and a low content of organic matter. Reducing the evaporation and runoff rates and increasing the rate of water infiltration can conserve soil moisture. Measures that conserve soil moisture include applying conservation tillage and conservation cropping systems, establishing field windbreaks, and leaving crop residue on the surface.

Ponding occurs when the seasonal high water table is above the surface of the soil. Land grading helps to control ponding. Surface ditches and surface inlet tile can also be used to remove excess water if suitable outlets are available. Management of drainage in conformance with regulations influencing wetlands may require special permits and extra planning. Selecting forage and hay varieties adapted to wet conditions can improve forage production. Restricted use during wet periods helps to keep the pasture in good condition.

Poor tilth can occur in soils because of erosion, when part of the subsoil is incorporated into the plow layer. The erosion reduces the content of organic matter and increases the clay content in the surface soil. Intensive rainfall often results in the formation of a crust on the surface. Poor tilth also occurs in poorly drained soils that have a high clay content, regardless of organic matter content, and in soils that have been excessively tilled. Poor tilth reduces the rate of water infiltration and increases the runoff rate and the susceptibility to erosion on the more sloping soils. Soils with poor tilth generally have a surface layer that is sticky when wet and hard and cloddy when dry. Because these soils can be tilled only within a narrow range in moisture content, seedbed preparation is difficult. Minimizing tillage and timing conservation tillage operations to near optimal soil moisture conditions during pasture establishment or pasture renovation can improve tilth.

Wetness occurs when the seasonal high water table is at or near the surface. Subsurface tile drains can lower the seasonal high water table if suitable outlets are available. Management of drainage in conformance with regulations influencing wetlands may require special permits and extra planning. Selecting forage and hay varieties adapted to wet conditions can improve forage production. Restricted use during wet periods helps to keep the pasture in good condition.

Wind erosion can occur in overgrazed areas or during pasture establishment and renovation if the surface is not protected. Wind erosion can be controlled by applying a system of conservation tillage that leaves residue on the surface after planting, by using tillage systems that leave the surface rough, by establishing field windbreaks, and by regularly adding organic material to the soil.

The following paragraphs provide explanations of the criteria used to determine the limitations or hazards.

Equipment limitation.—The slope is more than 18 percent.

Excess lime.—The upper limit of the calcium carbonate equivalent is 15 percent or more within a depth of 20 inches.

Excessive permeability.—The lower limit of the permeability rate is more than 6.0 inches per hour within the soil profile.

Flooding.—The soil is subject to occasional or frequent flooding.

Frost heave.—The potential for frost action is moderate or high, and the soil is poorly drained or very poorly drained.

High pH.—The lower limit of pH within a depth of 40 inches is 7.4 or more.

Limited available water capacity.—The available water capacity calculated to a depth of 60 inches or to a root-restricting layer is less than 6 inches.

Low fertility.—The average content of organic matter in the surface layer is less than 1 percent, or the average cation-exchange capacity (CEC) is less than 7.

Low pH.—The lower limit of pH within a depth of 40 inches is 5.5 or less.

Poor tilth.—The content of clay in the surface layer is 27 percent or more.

Water erosion.—The Kw factor multiplied by the slope is more than 1.0, and the slope is 3 percent or more.

Wetness.—The seasonal high water table is within a depth of 1.5 feet.

Wind erosion.—The wind erodibility group (WEG) is 1 or 2.

Erosion factors (for example, the Kw factor) and wind erodibility groups are described under the heading “Physical Properties.”

Yields per Acre

The average yields per acre that can be expected of the principal crops under a high level of management are shown in table 7. In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors. The land capability classification of map units in the survey area also is shown in the table.

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents (Olson and Lang, 2000; Olson and others, 2000). Available yield data from nearby counties and results of field trials and demonstrations also are considered.

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green manure crops; and harvesting that ensures the smallest possible loss.

Yields for grass-legume pasture under an average level of management also are shown in table 7. Pasture yields are expressed in terms of animal unit months. An animal unit month (AUM) is the amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

The estimated yields in the table reflect the productive capacity of each soil for each of the principal crops and pasture plants. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in the table are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Natural Resources Conservation Service or the Cooperative Extension Service can provide information about the management and productivity of the soils for those crops.

Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are

used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for forestland or for engineering purposes.

In the capability system, soils are generally grouped at three levels—capability class, subclass, and unit (USDA, 1961).

Capability classes, the broadest groups, are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class 1 soils have slight limitations that restrict their use.

Class 2 soils have moderate limitations that restrict the choice of plants or that require moderate conservation practices.

Class 3 soils have severe limitations that restrict the choice of plants or that require special conservation practices, or both.

Class 4 soils have very severe limitations that restrict the choice of plants or that require very careful management, or both.

Class 5 soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 6 soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.

Class 8 soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes.

Capability subclasses are soil groups within one class. They are designated by adding a small letter, *e, w, s,* or *c,* to the class numeral, for example, 2e. The letter *e* shows that the main hazard is the risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c,* used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

In class 1 there are no subclasses because the soils of this class have few limitations. Class 5 contains only the subclasses indicated by *w, s,* or *c* because the soils in class 5 are subject to little or no erosion. They have other limitations that restrict their use to pasture, rangeland, forestland, or wildlife habitat.

Capability units are soil groups within a subclass. The soils in a capability unit are enough alike to be suited to the same crops and pasture plants, to require similar management, and to have similar productivity. Capability units are generally designated by adding an Arabic numeral to the subclass symbol, for example, 2e-4 and 3e-6. These units are not given in all soil surveys.

The capability classification of the soils in this survey area is given in the section “Soil Series and Detailed Soil Map Units” and in the yields table.

Prime Farmland

Prime farmland is one of several kinds of important farmland defined by the U.S. Department of Agriculture. It is of major importance in meeting the Nation’s short- and

long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil qualities, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. It is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slope ranges mainly from 0 to 6 percent. More detailed information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service.

A recent trend in land use in some parts of the survey area has been the loss of some prime farmland to industrial and urban uses. The loss of prime farmland to other uses puts pressure on marginal lands, which generally are more erodible, droughty, and less productive and cannot be easily cultivated.

About 353,382 acres in the survey area, or nearly 89 percent of the total acreage, meets the soil requirements for prime farmland.

The map units in the survey area that are considered prime farmland are listed in table 8. This list does not constitute a recommendation for a particular land use. On some soils included in the list, measures that overcome a hazard or limitation, such as flooding, wetness, and droughtiness, are needed. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures. The extent of each listed map unit is shown in table 5. The location is shown on the detailed soil maps. Some of the soil qualities that affect use and management are described under the heading "Soil Series and Detailed Soil Map Units."

Hydric Soils

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for all of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils, under natural conditions, are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration

of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

Map units that are dominantly made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units dominantly made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform. Table 9 lists the map units that include hydric soils, either as major components or as inclusions. The hydric soils listed in the table meet the definition of a hydric soil and have at least one of the hydric soil indicators. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and Vasilas, 2006).

The criteria for hydric soils are represented by codes in the table (for example, 2B3). Definitions for the codes are as follows:

1. All Histels except for Folistels, and Histosols except for Folists.
2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that:
   A. are somewhat poorly drained and have a water table at the surface (0.0 feet) during the growing season, or
   B. are poorly drained or very poorly drained and have either:
      1) a water table at the surface (0.0 feet) during the growing season if textures are coarse sand, sand, or fine sand in all layers within a depth of 20 inches, or
      2) a water table at a depth of 0.5 foot or less during the growing season if saturated hydraulic conductivity (Ksat) is equal to or greater than 6.0 in/hr in all layers within a depth of 20 inches, or
      3) a water table at a depth of 1.0 foot or less during the growing season if saturated hydraulic conductivity (Ksat) is less than 6.0 in/hr in any layer within a depth of 20 inches.
3. Soils that are frequently ponded for long or very long duration during the growing season.
4. Soils that are frequently flooded for long or very long duration during the growing season.

Windbreaks and Environmental Plantings

Windbreaks protect livestock, buildings, yards, fruit trees, gardens, and cropland from wind and snow; help to keep snow on fields; and provide food and cover for wildlife. Field windbreaks are narrow plantings made at right angles to the prevailing wind and at specific intervals across the field. The interval depends on the erodibility of the soil.

Environmental plantings help to beautify and screen houses and other buildings and to abate noise. The plants, mostly evergreen shrubs and trees, are closely spaced. To ensure plant survival, a healthy planting stock of suitable species should be planted properly on a well prepared site and maintained in good condition.

Table 10 shows the height that locally grown trees and shrubs are expected to reach in 20 years on soils in the survey area. The estimates in the table are based on measurements and observation of established plantings that have been given adequate care. They can be used as a guide in planning windbreaks and screens. Additional information on planning windbreaks and screens and planting and caring for trees and shrubs can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service or from a commercial nursery.

Forestland Management and Productivity

Matt Peterson, district forester, Illinois Department of Natural Resources, helped prepare this section.

When the survey area was first settled, forestland covered approximately 54,000 acres, or about 14 percent of the total acreage (Bretthauer and Edgington, 2002). As the population of the county increased, the woodland eventually was cleared for farming. Today, woodland makes up approximately 3 percent of the total acreage, or about 10,476 acres (Illinois Department of Agriculture, 2001). The majority of the woodland is in relatively small, privately owned woodlots.

Most of the forestland in Logan County is in areas of soils that generally are not suited to cultivation because of wetness, droughtiness, or slope. These soils have fair or good potential for production of high-quality trees.

The wooded upland areas of Logan County consist mainly of Hickory, Senachwine, Sylvan, Rozetta, Fayette, Keomah, and Middletown soils. Red oak, white oak, black walnut, American elm, red elm, and shagbark hickory are the dominant species in areas of these soils. Silver maple, cottonwood, American elm, and green ash grow mainly on the bottom-land soils, such as Sawmill, Radford, Lawson, Tice, Huntsville, and Ross soils (fig. 10). The sandy upland soils, such as Bloomfield and Princeton soils, support stands of black oak, shingle oak, blackjack oak, and black hickory; however, these soils are well suited to red pine, white pine, and jack pine.

Much of the forestland can be improved by harvesting mature trees and by removing the nonmerchantable trees that retard the growth of desirable species. Protecting the woodland from fire, excluding livestock from the woodland, and controlling disease and insects increase productivity. Tree planting is needed unless stocking is adequate. Control of competing vegetation is needed if seedlings are planted. Seeding non-sodforming grass or grass-legume mixtures between rows of the planted seedlings helps to control erosion. If erosion is excessive or the slope is more than 10 percent, runoff should be diverted away from haul roads and skid trails. Machinery should be used only when the soil is firm enough to support the weight of the machinery.

Forestland Management

In tables 11a through 11e, interpretive ratings are given for various aspects of forest management. The ratings are both verbal and numerical.



Figure 10.—Riparian forest buffers in an area of nearly level, frequently flooded Sawmill soils help to control out-of-bank scour erosion and also help to restore woodland areas in the county.

Some rating class terms indicate the degree to which the soils are suited to a specified forest management practice. *Well suited* indicates that the soil has features that are favorable for the specified practice and has no limitations. Good performance can be expected, and little or no maintenance is needed. *Moderately suited* indicates that the soil has features that are moderately favorable for the specified practice. One or more soil properties are less than desirable, and fair performance can be expected. Some maintenance is needed. *Poorly suited* indicates that the soil has one or more properties that are unfavorable for the specified practice. Overcoming the unfavorable properties requires special design, extra maintenance, and costly alteration. *Unsuited* indicates that the expected performance of the soil is unacceptable for the specified practice or that extreme measures are needed to overcome the undesirable soil properties.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the specified forest management practice (1.00) and the point at which the soil feature is not a limitation (0.00).

Rating class terms for seedling mortality are expressed as *low, moderate,* and *high*. Where these terms are used, the numerical ratings indicate gradations between the point at which the potential for seedling mortality is highest (1.00) and the point at which the potential is lowest (0.00).

The paragraphs that follow indicate the soil properties considered in rating the soils for forest management practices. More detailed information about the criteria used in the ratings is available in the “National Forestry Manual,” which is available in local offices of the Natural Resources Conservation Service or on the Internet.

Table 11a

For *limitations affecting construction of haul roads and log landings*, the ratings are based on slope, flooding, permafrost, plasticity index, the hazard of soil slippage, content of sand, the Unified classification, rock fragments on or below the surface, depth to a restrictive layer that is indurated, depth to a water table, and ponding. The limitations are described as slight, moderate, or severe. A rating of *slight* indicates that no significant limitations affect construction activities, *moderate* indicates that one or more limitations can cause some difficulty in construction, and *severe* indicates that one or more limitations can make construction very difficult or very costly.

The ratings of *suitability for log landings* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, ponding, flooding, and the hazard of soil slippage. The soils are described as well suited, moderately suited, or poorly suited to use as log landings.

Ratings in the column *soil rutting hazard* are based on depth to a water table, rock fragments on or below the surface, the Unified classification, depth to a restrictive layer, and slope. Ruts form as a result of the operation of forest equipment. The hazard is described as slight, moderate, or severe. A rating of *slight* indicates that the soil is subject to little or no rutting, *moderate* indicates that rutting is likely, and *severe* indicates that ruts form readily.

Table 11b

Ratings in the column *hazard of off-road or off-trail erosion* are based on slope and on soil erosion factor K. The soil loss is caused by sheet or rill erosion in off-road or off-trail areas where 50 to 75 percent of the surface has been exposed by logging, grazing, mining, or other kinds of disturbance. The hazard is described as slight, moderate, severe, or very severe. A rating of *slight* indicates that erosion is unlikely under ordinary climatic conditions; *moderate* indicates that some erosion is likely and that erosion-control measures may be needed; *severe* indicates that erosion is very likely and that erosion-control measures, including revegetation of bare areas, are advised; and *very severe* indicates that significant erosion is expected, loss of soil productivity and off-site damage are likely, and erosion-control measures are costly and generally impractical.

Ratings in the column *hazard of erosion on roads and trails* are based on the soil erosion factor K, slope, and content of rock fragments. The ratings apply to unsurfaced roads and trails. The hazard is described as slight, moderate, or severe. A rating of *slight* indicates that little or no erosion is likely; *moderate* indicates that some erosion is likely, that the roads or trails may require occasional maintenance, and that simple erosion-control measures are needed; and *severe* indicates that significant erosion is expected, that the roads or trails require frequent maintenance, and that costly erosion-control measures are needed.

Ratings in the column *suitability for roads (natural surface)* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, ponding, flooding, and the hazard of soil slippage. The ratings indicate the suitability for using the natural surface of the soil for roads. The soils are described as well suited, moderately suited, or poorly suited to this use.

Table 11c

Ratings in the columns *suitability for hand planting* and *suitability for mechanical planting* are based on slope, depth to a restrictive layer, content of sand, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, moderately suited, poorly suited, or unsuited to these methods of planting. It is assumed that necessary site preparation is completed before seedlings are planted.

Ratings in the column *suitability for use of harvesting equipment* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, and ponding. The soils are described as well suited, moderately suited, or poorly suited to this use.

Table 11d

Ratings in the column *suitability for mechanical site preparation (surface)* are based on slope, depth to a restrictive layer, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, poorly suited, or unsuited to this management activity. The part of the soil from the surface to a depth of about 1 foot is considered in the ratings.

Ratings in the column *suitability for mechanical site preparation (deep)* are based on slope, depth to a restrictive layer, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, poorly suited, or unsuited to this management activity. The part of the soil from the surface to a depth of about 3 feet is considered in the ratings.

Table 11e

Ratings in the column *potential for seedling mortality* are based on flooding, ponding, depth to a water table, content of lime, reaction, salinity, available water capacity, soil moisture regime, soil temperature regime, aspect, and slope. The soils are described as having a low, moderate, or high potential for seedling mortality.

Forestland Productivity

In table 12, the *potential productivity* of merchantable or *common trees* on a soil is expressed as a site index and as a volume number. The *site index* is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands. Commonly grown trees are those that forest managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability. More detailed information regarding site index is available in the “National Forestry Manual,” which is available in local offices of the Natural Resources Conservation Service or on the Internet.

The *volume of wood fiber*, a number, is the yield likely to be produced by the most important tree species. This number, expressed as cubic feet per acre per year and calculated at the age of culmination of the mean annual increment (CMAI), indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

Suggested trees to plant are those that are preferred for planting, seeding, or natural regeneration and those that remain in the stand after thinning or partial harvest.

Recreational Development

The Lincoln/Logan County Chamber of Commerce helped prepare this section.

In Logan County, numerous recreational facilities are available through the park districts, in State and private parks, through the Lincoln Area YMCA, and through the area schools.

The Lincoln Recreation Center, which is on the city’s southeast side, provides indoor and outdoor sport and fitness activities. On Lincoln’s west side, the 42-acre Lincoln Memorial Park offers baseball and softball fields, play areas, and picnic sites. Downtown Lincoln has two historic parks with playgrounds, picnic sites, and a band shell for summer concerts. The Lincoln Park District oversees seven other neighborhood parks that range in size from about half an acre to as much as 3 acres.

Other park facilities include those maintained by the Atlanta Park District. The Mount Pulaski Park District has four parks and a large outdoor swimming pool. The towns of Beason, Emden, Middletown, New Holland, Elkhart, and Latham all offer municipal parks.

Kickapoo Creek Park, a privately owned 335-acre park on the north side of Lincoln, features hiking and fitness trails and picnic areas. Another popular hiking park is the 741-acre Edward R. Madigan State Park, located a few minutes south of Lincoln. This park is a popular spot for bird watching, nature hikes, deer sightings, picnicking, and cross-country skiing.

Public and private golf courses are available in Lincoln and Atlanta. The private golf course in Lincoln also features an outdoor pool, tennis courts, and a sand volleyball court.

Numerous opportunities for outdoor recreation are available in Logan County, including campgrounds, bicycle-friendly streets, scenic drives, sportsman's clubs, hunting grounds, walking tours, outdoor sports programs, hot-air balloon activities, and fishing and canoeing.

In tables 13a and 13b, the soils of the survey area are rated according to limitations that affect their suitability for recreational development. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the recreational uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The ratings in the tables are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewer lines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation also are important. Soils that are subject to flooding are limited for recreational uses by the duration and intensity of flooding and the season when flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

The information in these tables can be supplemented by other information in this survey, for example, interpretations for dwellings without basements, for local roads and streets, and for septic tank absorption fields.

Camp areas require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The ratings are based on the soil properties that affect the ease of developing camp areas and the performance of the areas after development. Slope, stoniness, and depth to bedrock or a cemented pan are the main concerns affecting the development of camp areas. The soil properties that affect the performance of the areas after development are those that influence trafficability and promote the growth of vegetation, especially in heavily used areas. For good trafficability, the surface of

camp areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Picnic areas are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The ratings are based on the soil properties that affect the ease of developing picnic areas and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of picnic areas. For good trafficability, the surface of picnic areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Playgrounds require soils that are nearly level, are free of stones, and can withstand intensive foot traffic. The ratings are based on the soil properties that affect the ease of developing playgrounds and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of playgrounds. For good trafficability, the surface of the playgrounds should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Paths and trails for hiking and horseback riding should require little or no slope modification through cutting and filling. The ratings are based on the soil properties that affect trafficability and erodibility. These properties are stoniness, depth to a water table, ponding, flooding, slope, and texture of the surface layer.

Off-road motorcycle trails require little or no site preparation. They are not covered with surfacing material or vegetation. Considerable compaction of the soil material is likely. The ratings are based on the soil properties that influence erodibility, trafficability, dustiness, and the ease of revegetation. These properties are stoniness, slope, depth to a water table, ponding, flooding, and texture of the surface layer.

Golf fairways are subject to heavy foot traffic and some light vehicular traffic. Cutting or filling may be required. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer. The suitability of the soil for traps, tees, roughs, and greens is not considered in the ratings.

Wildlife Habitat

Buck Cunningham, wildlife biologist, Illinois Department of Natural Resources, helped prepare this section.

The kinds and abundance of wildlife in Logan County reflect the soil types, land use, and vegetation. About 86 percent of the soils in the county developed under native plant communities dominated by tall prairie grasses. Wildlife that was formerly abundant in this prairie habitat included prairie chickens, grassland birds, and mammals. The native woodland habitat originally covered about 14 percent of the

county (Bretthauer and Edgington, 2002). After the county was settled, drainage systems were installed, trees were cleared, and the acreage of cultivated crops increased rapidly. These changes altered the wildlife communities, favoring the more adaptable species and those more tolerant of human settlements, such as horned lark, cardinal, mourning dove, raccoon, and white-tailed deer.

Areas used as wildlife habitat are not necessarily set aside for this purpose. Many of the nearly level to strongly sloping soils used for crops and pasture in Logan County generally are well suited to habitat for openland wildlife species, such as rabbits, pheasant, bobwhite quail, red fox, mourning dove, and meadowlark. Habitat for woodland wildlife generally is in areas of soils that are too steep for cultivation, in small dissected areas along streams, and in areas of soils that are not suitable for farming because of poor drainage or droughtiness. These wooded areas provide habitat for squirrel, opossum, gray fox, raccoon, turkey, white-tailed deer, and woodcock. Habitat for wetland wildlife consists of open, marshy areas of shallow water. Some of the wildlife attracted to such areas are ducks, geese, herons, shore birds, muskrat, frogs, turtles, and snakes.

Good management can improve the habitat for wildlife. Leaving crop residue on the surface during fall and winter, for example, not only helps to control erosion but also greatly improves the habitat for openland wildlife. Deferring the mowing of grassed waterways, roadsides, and fence rows until early August, after the nesting season, can significantly increase the annual production of pheasants, meadowlarks, rabbits, and other wildlife species that nest on the ground. Measures that exclude livestock from woodland, wetland, and streambanks can markedly improve wildlife habitat.

Soils affect the kind and amount of vegetation that is available to wildlife as food and cover. They also affect the construction of water impoundments. The kind and abundance of wildlife depend largely on the amount and distribution of food, cover, and water. Wildlife habitat can be created or improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants (fig. 11).

In table 14, the soils in the survey area are rated according to their potential for providing habitat for various kinds of wildlife. This information can be used in planning parks, wildlife refuges, nature study areas, and other developments for wildlife; in selecting soils that are suitable for establishing, improving, or maintaining specific elements of wildlife habitat; and in determining the intensity of management needed for each element of the habitat.

The potential of the soil is rated good, fair, poor, or very poor. A rating of *good* indicates that the element or kind of habitat is easily established, improved, or maintained. Few or no limitations affect management, and satisfactory results can be expected. A rating of *fair* indicates that the element or kind of habitat can be established, improved, or maintained in most places. Moderately intensive management is required for satisfactory results. A rating of *poor* indicates that limitations are severe for the designated element or kind of habitat. Habitat can be created, improved, or maintained in most places, but management is difficult and must be intensive. A rating of *very poor* indicates that restrictions for the element or kind of habitat are very severe and that unsatisfactory results can be expected. Creating, improving, or maintaining habitat is impractical or impossible.

The elements of wildlife habitat are described in the following paragraphs.

Grain and seed crops are domestic grains and seed-producing herbaceous plants. Examples are corn, soybeans, wheat, and oats. Soil properties and features that affect the growth of grain and seed crops are depth of the root zone, texture of the surface layer, available water capacity, wetness, slope, surface stoniness, and flooding. Soil temperature and soil moisture also are considerations. Selection should be made from a list of locally adapted species.



Figure 11.—A planting of native grasses (part of the Conservation Reserve Enhancement Program) reduces the hazard of erosion and provides wildlife habitat in an area of strongly sloping Princeton and Bloomfield soils.

Grasses and legumes are domestic perennial grasses and herbaceous legumes. Examples are bromegrass, timothy, orchardgrass, clover, and alfalfa. Soil properties and features that affect the growth of grasses and legumes are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, flooding, and slope. Soil temperature and soil moisture also are considerations.

Wild herbaceous plants are native or naturally established grasses and forbs, including weeds. Examples are bluestems, indiangrass, goldenrod, beggarweed, ragweed, and foxtail. Soil properties and features that affect the growth of these plants are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, and flooding. Soil temperature and soil moisture also are considerations.

Hardwood trees and woody understory produce nuts or other fruit, buds, catkins, twigs, bark, and foliage. Examples are oak, cherry, cottonwood, apple, hawthorn, hickory, blackberry, elderberry, maple, and willow. Examples of fruit-producing shrubs that are suitable for planting on soils rated *good* are American plum, hazelnut, dogwood, and arrowwood. Soil properties and features that affect the growth of hardwood trees and shrubs are depth of the root zone, available water capacity, and wetness.

Coniferous plants are cone-bearing trees, shrubs, or ground cover that provides habitat or supplies food in the form of browse, seed, or fruit-like cones. Examples are pine, spruce, cedar, juniper, and fir. Soil properties and features that affect the growth of coniferous trees, shrubs, and ground cover are depth of the root zone, available water capacity, and wetness.

Wetland plants are annual and perennial wild herbaceous plants that grow on moist or wet sites. Submerged or floating aquatic plants are excluded. Soil properties and features affecting wetland plants are texture of the surface layer, wetness, reaction, salinity, slope, and surface stoniness. Examples of wetland plants are smartweed, wild millet, cordgrass, rushes, sedges, and reeds.

Shallow water areas have an average depth of less than 5 feet. Some are naturally wet areas. Others are created by dams, levees, or other water-control structures. Soil properties and features affecting shallow water areas are depth to bedrock, wetness, surface stoniness, slope, and permeability. Examples of shallow water areas are marshes, waterfowl feeding areas, and ponds.

The habitat for various kinds of wildlife is described in the following paragraphs.

Habitat for openland wildlife consists of cropland, pasture, meadows, and areas that are overgrown with grasses, herbs, shrubs, and vines. These areas produce grain and seed crops, grasses and legumes, and wild herbaceous plants. Wildlife attracted to these areas include ring-necked pheasant, bobwhite quail, meadowlark, field sparrow, cottontail rabbit, and red fox.

Habitat for woodland wildlife consists of areas of deciduous and/or coniferous plants and associated grasses, legumes, and wild herbaceous plants. Wildlife attracted to these areas include wild turkey, thrushes, woodpeckers, owls, tree squirrels, raccoon, woodcock, and white-tailed deer.

Habitat for wetland wildlife consists of open, marshy or swampy shallow water areas. Some of the wildlife attracted to such areas are ducks, geese, herons, shore birds, muskrat, mink, and beaver.

Engineering

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for building site development, sanitary facilities, construction materials, and water management. The ratings are based on observed performance of the soils and on the data in the tables described under the heading “Soil Properties.”

Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil between the surface and a depth of 5 to 7 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations should be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about particle-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 to 7 feet of the surface, soil wetness, depth to a water table, ponding, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kinds of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential,

available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, reclamation material, roadfill, and topsoil; plan structures for water management; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey, can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.

Building Site Development

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. Tables 15a and 15b show the degree and kind of soil limitations that affect dwellings with and without basements, small commercial buildings, local roads and streets, shallow excavations, and lawns and landscaping.

The ratings in the tables are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Dwellings are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet. The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Small commercial buildings are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of

reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (which is inferred from the Unified classification). The properties that affect the ease and amount of excavation include flooding, depth to a water table, ponding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and grading are depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, depth to a water table, ponding, flooding, the amount of large stones, and slope. The properties that affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, depth to a water table, and ponding.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for graves, utility lines, open ditches, or other purposes. The ratings are based on the soil properties that influence the ease of digging and the resistance to sloughing. Depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, the amount of large stones, and dense layers influence the ease of digging, filling, and compacting. Depth to the seasonal high water table, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to the water table, and linear extensibility (shrink-swell potential) influence the resistance to sloughing.

Lawns and landscaping require soils on which turf and ornamental trees and shrubs can be established and maintained. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer.

Sanitary Facilities

Tables 16a and 16b show the degree and kind of soil limitations that affect septic tank absorption fields, sewage lagoons, sanitary landfills, and daily cover for landfill. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special

design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 60 inches is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

Sewage lagoons are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. Considered in the ratings are slope, permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, flooding, large stones, and content of organic matter.

Soil permeability is a critical property affecting the suitability for sewage lagoons. Most porous soils eventually become sealed when they are used as sites for sewage lagoons. Until sealing occurs, however, the hazard of pollution is severe. Soils that have a permeability rate of more than 2 inches per hour are too porous for the proper functioning of sewage lagoons. In these soils, seepage of the effluent can result in contamination of the ground water. Ground-water contamination is also a hazard if fractured bedrock is within a depth of 40 inches, if the water table is high enough to raise the level of sewage in the lagoon, or if floodwater overtops the lagoon.

A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor. If the lagoon is to be uniformly deep throughout, the slope must be gentle enough and the soil material must be thick enough over bedrock or a cemented pan to make land smoothing practical.

A *trench sanitary landfill* is an area where solid waste is placed in successive layers in an excavated trench. The waste is spread, compacted, and covered daily with a thin layer of soil excavated at the site. When the trench is full, a final cover of soil material at least 2 feet thick is placed over the landfill. The ratings in the table are based on the soil properties that affect the risk of pollution, the ease of excavation, trafficability, and revegetation. These properties include permeability, depth to bedrock or a cemented pan, depth to a water table, ponding, slope, flooding, texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, onsite investigation may be needed.

Hard, nonrippable bedrock, creviced bedrock, or highly permeable strata in or directly below the proposed trench bottom can affect the ease of excavation and the hazard of ground-water pollution. Slope affects construction of the trenches and the

movement of surface water around the landfill. It also affects the construction and performance of roads in areas of the landfill.

Soil texture and consistence affect the ease with which the trench is dug and the ease with which the soil can be used as daily or final cover. They determine the workability of the soil when dry and when wet. Soils that are plastic and sticky when wet are difficult to excavate, grade, or compact and are difficult to place as a uniformly thick cover over a layer of refuse.

The soil material used as the final cover for a trench landfill should be suitable for plants. It should not have excess sodium or salts and should not be too acid. The surface layer generally has the best workability, the highest content of organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

In an *area sanitary landfill*, solid waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site. A final cover of soil material at least 2 feet thick is placed over the completed landfill. The ratings in the table are based on the soil properties that affect trafficability and the risk of pollution. These properties include flooding, permeability, depth to a water table, ponding, slope, and depth to bedrock or a cemented pan.

Flooding is a serious problem because it can result in pollution in areas downstream from the landfill. If permeability is too rapid or if fractured bedrock, a fractured cemented pan, or the water table is close to the surface, the leachate can contaminate the water supply. Slope is a consideration because of the extra grading required to maintain roads in the steeper areas of the landfill. Also, leachate may flow along the surface of the soils in the steeper areas and cause difficult seepage problems.

Daily cover for landfill is the soil material that is used to cover compacted solid waste in an area sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste. The ratings in the table also apply to the final cover for a landfill. They are based on the soil properties that affect workability, the ease of digging, and the ease of moving and spreading the material over the refuse daily during wet and dry periods. These properties include soil texture, depth to a water table, ponding, rock fragments, slope, depth to bedrock or a cemented pan, reaction, and content of salts, sodium, or lime.

Loamy or silty soils that are free of large stones and excess gravel are the best cover for a landfill. Clayey soils may be sticky and difficult to spread; sandy soils are subject to wind erosion.

Slope affects the ease of excavation and of moving the cover material. Also, it can influence runoff, erosion, and reclamation of the borrow area.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a cemented pan, or the water table to permit revegetation. The soil material used as the final cover for a landfill should be suitable for plants. It should not have excess sodium, salts, or lime and should not be too acid.

Construction Materials

Tables 17a and 17b give information about the soils as potential sources of sand, roadfill, and topsoil. Normal compaction, minor processing, and other standard construction practices are assumed.

Sand occurs as natural aggregates suitable for commercial use with a minimum of processing. It is used in many kinds of construction. Specifications for each use vary widely. In table 17a, only the likelihood of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material. The properties used to evaluate the soil

as a source of sand are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the bottom layer of the soil contains sand, the soil is considered a likely source regardless of thickness. The assumption is that the sand layer below the depth of observation exceeds the minimum thickness.

The soils are rated *good, fair,* or *poor* as potential sources of sand. A rating of *good* or *fair* means that the source material is likely to be in or below the soil. The bottom layer and the thickest layer of the soils are assigned numerical ratings. These ratings indicate the likelihood that the layer is a source of sand. The number 0.00 indicates that the layer is a poor source. The number 1.00 indicates that the layer is a good source. A number between 0.00 and 1.00 indicates the degree to which the layer is a likely source.

In table 17b, the soils are rated as *good, fair,* or *poor* sources of roadfill and topsoil. The features that limit the soils as sources of roadfill and topsoil are specified in the table. The numerical ratings given after the specified features indicate the degree to which the features limit the soils as sources of roadfill and topsoil. The lower the number, the greater the limitation.

Roadfill is soil material that is excavated in one place and used in road embankments in another place. In this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the whole soil, from the surface to a depth of about 5 feet. It is assumed that soil layers will be mixed when the soil material is excavated and spread.

The ratings are based on the amount of suitable material and on soil properties that affect the ease of excavation and the performance of the material after it is in place. The thickness of the suitable material is a major consideration. The ease of excavation is affected by large stones, depth to a water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the AASHTO classification of the soil) and linear extensibility (shrink-swell potential).

Topsoil is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area. The ratings are based on the soil properties that affect plant growth; the ease of excavating, loading, and spreading the material; and reclamation of the borrow area. Toxic substances, soil reaction, and the properties that are inferred from soil texture, such as available water capacity and fertility, affect plant growth. The ease of excavating, loading, and spreading is affected by rock fragments, slope, depth to a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, depth to a water table, rock fragments, depth to bedrock or a cemented pan, and toxic material.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

Water Management

Tables 18a, 18b, and 18c give information on the soil properties and site features that affect water management. The degree and kind of soil limitations are given for pond reservoir areas; embankments, dikes, and levees; aquifer-fed excavated ponds; grassed waterways and surface drains; terraces and diversions; tile drains and underground outlets; and sprinkler irrigation. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low

maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Table 18a

Pond reservoir areas hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

Embankments, dikes, and levees are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. Embankments that have zoned construction (core and shell) are not considered. In this table, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material below the surface layer to a depth of about 5 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders, organic matter, or salts or sodium. A high water table affects the amount of usable material. It also affects trafficability.

Aquifer-fed excavated ponds are pits or dugouts that extend to a ground-water aquifer or to a depth below a permanent water table. Excluded are ponds that are fed only by surface runoff and embankment ponds that impound water 3 feet or more above the original surface. Excavated ponds are affected by depth to a permanent water table, permeability of the aquifer, and quality of the water as inferred from the salinity of the soil. Depth to bedrock and the content of large stones affect the ease of excavation.

Table 18b

Grassed waterways and surface drains are natural or constructed channels, generally broad and shallow, that conduct surface water to outlets at a nonerosive velocity. Large stones, wetness, slope, and depth to bedrock affect the construction of grassed waterways. A hazard of wind erosion, a low available water capacity, restricted rooting depth, toxic substances such as salts and sodium, and restricted permeability adversely affect the growth and maintenance of the grass after construction (fig. 12).

Terraces and diversions are embankments or a combination of channels and ridges constructed across a slope to control erosion and conserve moisture by intercepting runoff. Slope, wetness, large stones, and depth to bedrock affect the construction of terraces and diversions. A restricted rooting depth, a severe hazard of wind erosion or



Figure 12.—A grassed waterway in an area of moderately sloping Pillot soils.

water erosion, an excessively coarse texture, and restricted permeability adversely affect maintenance.

Tile drains and underground outlets are used in some areas to remove excess subsurface and surface water from the soil. The ratings in the table apply to undisturbed soils that commonly have a seasonal high water table within a depth of about 3.0 feet. Current land use is not considered in the ratings. Depth to bedrock, a dense layer, or a cemented pan, the content of large stones, and the content of clay influence the ease of digging, filling, and compacting. A seasonal high water table, ponding, and flooding may restrict the period when excavations can be made. The slope influences the use of machinery. Soil texture and depth to the water table influence the resistance to sloughing. Subsidence of organic layers influences grade and stability of tile drains. Limitations affecting areas where the tile line passes through soils in which the water table is generally below a depth of 3.0 feet are provided in the table that includes the column “shallow excavations,” which is described under the heading “Building Site Development.”

Table 18c

Irrigation is the controlled application of water to supplement rainfall and support plant growth. The table shows ratings for *sprinkler irrigation*, in which water is sprayed over the soil surface through pipes or nozzles from a pressure system.

The design and management of an irrigation system are affected by depth to the water table, the need for drainage, flooding, available water capacity, intake rate, permeability, erosion hazard, and slope. The construction of a system is affected by large stones and depth to bedrock or a cemented pan. The performance of a system is affected by the depth of the root zone, the amount of salts or sodium, and soil reaction.

Soil Properties

Data relating to soil properties are collected during the course of the soil survey.

Soil properties are ascertained by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine particle-size distribution, plasticity, and compaction characteristics.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help to characterize key soils.

The estimates of soil properties are shown in tables. They include engineering index properties, physical and chemical properties, and pertinent soil and water features.

Engineering Index Properties

Table 19 gives the engineering classifications and the range of index properties for the layers of each soil in the survey area.

Depth to the upper and lower boundaries of each layer is indicated.

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter (fig. 13). “Loam,” for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, “gravelly.” Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified soil classification system (ASTM, 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2004).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group

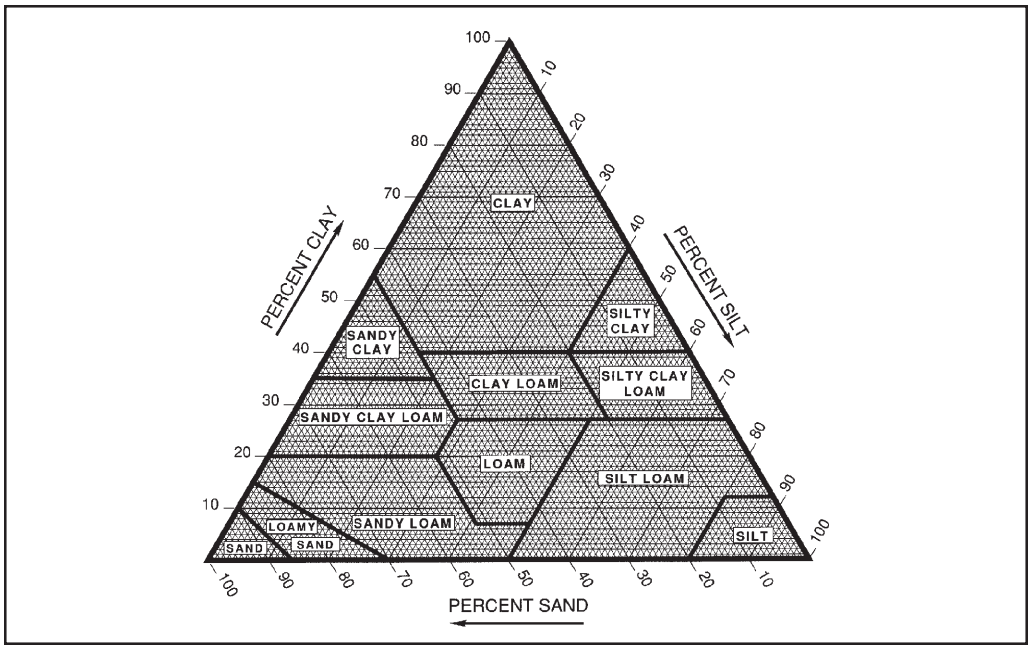


Figure 13.—Percentages of clay, silt, and sand in the basic USDA soil textural classes.

index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

Rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

The estimates of particle-size distribution, liquid limit, and plasticity index are generally rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterberg limits extend a marginal amount (1 or 2 percentage points) across classification boundaries, the classification in the marginal zone is generally omitted in the table.

Physical Properties

Table 20 shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as

classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

Sand as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In the table, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Silt as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In the table, the estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In the table, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

Moist bulk density is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at $^1/_3$- or $^1/_{10}$-bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Permeability (Ksat) refers to the ability of a soil to transmit water or air. The term "permeability," as used in soil surveys, indicates saturated hydraulic conductivity (Ksat). The estimates in the table indicate the rate of water movement, in inches per hour, when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems and septic tank absorption fields.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at $^1/_3$- or $^1/_{10}$-bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. Volume change is influenced by the amount and type of clay minerals in the soil.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In table 20, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter in a soil can be maintained by returning crop residue to the soil. Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops.

Erosion factors are shown in table 20 as the K factor (Kw and Kf) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and permeability. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor Kw indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Erosion factor Kf indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Wind erodibility groups are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are described in the “National Soil Survey Handbook” (http://soils.usda.gov).

Wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

Chemical Properties

Table 21 shows estimates of some chemical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Cation-exchange capacity is the total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. The ability to retain cations reduces the hazard of ground-water pollution.

Effective cation-exchange capacity refers to the sum of exchangeable cations plus aluminum expressed in terms of milliequivalents per 100 grams of soil. It is determined for soils that have pH of less than 5.5.

Soil reaction is a measure of acidity or alkalinity. The pH of each soil horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

Calcium carbonate equivalent is the percent of carbonates, by weight, in the fraction of the soil less than 2 millimeters in size. The availability of plant nutrients is influenced by the amount of carbonates in the soil.

Water Features

Table 22 gives estimates of various water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas.

Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. Table 22 indicates *surface water depth* and the *duration* and *frequency* of ponding. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

Flooding is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

Duration and *frequency* of flooding are estimated. Duration is expressed as *extremely brief* if 0.1 hour to 4 hours, *very brief* if 4 hours to 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. *None* means that flooding is not probable; *very rare* that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year); *occasional* that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); *frequent* that it is likely to occur often under normal weather conditions (the chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year); and *very frequent* that it is likely to occur very often under normal weather conditions (the chance of flooding is more than 50 percent in all months of any year). *Common* is used when the occasional and frequent classes are grouped for certain purposes.

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

Water table refers to a saturated zone in the soil. Table 22 indicates the depth to the top (*upper limit*) and base (*lower limit*) of the saturated zone for the specified *months* in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

The table also shows the *kind of water table*, that is, apparent or perched. An *apparent* water table is a thick zone of free water in the soil. It is indicated by the level at which water stands in an uncased borehole after adequate time is allowed for adjustment in the surrounding soil. A *perched* water table is water standing above an unsaturated zone. In places an upper, or perched, water table is separated from a lower one by a dry zone.

Soil Features

Table 23 gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

A *restrictive layer* is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are abrupt textural changes, bedrock, cemented layers, dense layers, frozen layers, and strongly contrasting textural stratification. The table indicates the *hardness* of the restrictive layer, which significantly affects the ease of excavation. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

Potential for frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, permeability, content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly

structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low, moderate,* or *high,* is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as *low, moderate,* or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

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Glossary

Many of the terms relating to landforms, geology, and geomorphology are defined in more detail in the "National Soil Survey Handbook" (available in local offices of the Natural Resources Conservation Service or on the Internet).

ABC soil. A soil having an A, a B, and a C horizon.

Ablation till. Loose, relatively permeable earthy material deposited during the downwasting of nearly static glacial ice, either contained within or accumulated on the surface of the glacier.

AC soil. A soil having only an A and a C horizon. Commonly, such soil formed in recent alluvium or on steep, rocky slopes.

Aeration, soil. The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

Aggregate, soil. Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

Alluvial fan. A low, outspread mass of loose materials and/or rock material, commonly with gentle slopes. It is shaped like an open fan or a segment of a cone. The material was deposited by a stream at the place where it issues from a narrow mountain valley or upland valley or where a tributary stream is near or at its junction with the main stream. The fan is steepest near its apex, which points upstream, and slopes gently and convexly outward (downstream) with a gradual decrease in gradient.

Alluvium. Unconsolidated material, such as gravel, sand, silt, clay, and various mixtures of these, deposited on land by running water.

Alpha,alpha-dipyridyl. A compound that when dissolved in ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction implies reducing conditions and the likely presence of redoximorphic features.

Animal unit month (AUM). The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

Aquic conditions. Current soil wetness characterized by saturation, reduction, and redoximorphic features.

Argillic horizon. A subsoil horizon characterized by an accumulation of illuvial clay.

Aspect. The direction toward which a slope faces. Also called slope aspect.

Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low	0 to 3
Low	3 to 6
Moderate	6 to 9
High	9 to 12
Very high	more than 12

Backslope. The position that forms the steepest and generally linear, middle portion of a hillslope. In profile, backslopes are commonly bounded by a convex shoulder above and a concave footslope below.

Basal till. Compact till deposited beneath the ice.

Base saturation. The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.

Base slope (geomorphology). A geomorphic component of hills consisting of the concave to linear (perpendicular to the contour) slope that, regardless of the lateral shape, forms an apron or wedge at the bottom of a hillside dominated by colluvium and slope-wash sediments (for example, slope alluvium).

Bedding plane. A planar or nearly planar bedding surface that visibly separates each successive layer of stratified sediment or rock (of the same or different lithology) from the preceding or following layer; a plane of deposition. It commonly marks a change in the circumstances of deposition and may show a parting, a color difference, a change in particle size, or various combinations of these. The term is commonly applied to any bedding surface, even one that is conspicuously bent or deformed by folding.

Bedding system. A drainage system made by plowing, grading, or otherwise shaping the surface of a flat field. It consists of a series of low ridges separated by shallow, parallel dead furrows.

Bedrock. The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Bedrock-controlled topography. A landscape where the configuration and relief of the landforms are determined or strongly influenced by the underlying bedrock.

Bench terrace. A raised, level or nearly level strip of earth constructed on or nearly on a contour, supported by a barrier of rocks or similar material, and designed to make the soil suitable for tillage and to prevent accelerated erosion.

Bisequum. Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.

Blowout. A saucer-, cup-, or trough-shaped depression formed by wind erosion on a preexisting dune or other sand deposit, especially in an area of shifting sand or loose soil or where protective vegetation is disturbed or destroyed; the adjoining accumulation of sand derived from the depression, where recognizable, is commonly included. Blowouts are commonly small.

Bottom land. An informal term loosely applied to various portions of a flood plain.

Boulders. Rock fragments larger than 2 feet (60 centimeters) in diameter.

Breaks. A landscape or tract of steep, rough or broken land dissected by ravines and gullies and marking a sudden change in topography.

Brush management. Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.

Calcareous soil. A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.

Calcium carbonate. A common mineral in sediments and soils.

Canopy. The leafy crown of trees or shrubs. (See Crown.)

Capillary water. Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

Catena. A sequence of soils across a landscape that are about the same age and formed in similar kinds of parent material and under similar climatic conditions but that have different characteristics as a result of differences in relief and drainage.

Cation. An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

Cation-exchange capacity. The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

Catsteps. See Terracettes.

Channery soil material. Soil material that has, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a channer.

Chemical treatment. Control of unwanted vegetation through the use of chemicals.

Chiseling. Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay depletions. See Redoximorphic features.

Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

Claypan. A dense, compact, slowly permeable subsoil layer that contains much more clay than the overlying materials, from which it is separated by a sharply defined boundary. A claypan is commonly hard when dry and plastic and sticky when wet.

Climax plant community. The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.

Coarse textured soil. Sand or loamy sand.

Cobble (or cobblestone). A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.

Cobbly soil material. Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.

COLE (coefficient of linear extensibility). See Linear extensibility.

Colluvium. Unconsolidated, unsorted earth material being transported or deposited on side slopes and/or at the base of slopes by mass movement (e.g., direct gravitational action) and by local, unconcentrated runoff.

Complex slope. Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

Complex, soil. A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

Concretions. See Redoximorphic features.

Conglomerate. A coarse grained, clastic sedimentary rock composed of rounded or subangular rock fragments more than 2 millimeters in diameter. It commonly has a matrix of sand and finer textured material. Conglomerate is the consolidated equivalent of gravel.

Conservation cropping system. Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-

improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

Conservation tillage. A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Consistence, soil. Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the "Soil Survey Manual."

Contour stripcropping. Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Control section. The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Coprogenous earth (sedimentary peat). A type of limnic layer composed predominantly of fecal material derived from aquatic animals.

Corrosion (geomorphology). A process of erosion whereby rocks and soil are removed or worn away by natural chemical processes, especially by the solvent action of running water, but also by other reactions, such as hydrolysis, hydration, carbonation, and oxidation.

Corrosion (soil survey interpretations). Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

Cover crop. A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Crop residue management. Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

Cropping system. Growing crops according to a planned system of rotation and management practices.

Crown. The upper part of a tree or shrub, including the living branches and their foliage.

Culmination of the mean annual increment (CMAI). The average annual increase per acre in the volume of a stand. Computed by dividing the total volume of the stand by its age. As the stand increases in age, the mean annual increment continues to increase until mortality begins to reduce the rate of increase. The point where the stand reaches its maximum annual rate of growth is called the culmination of the mean annual increment.

Cutbanks cave (in tables). The walls of excavations tend to cave in or slough.

Deferred grazing. Postponing grazing or resting grazing land for a prescribed period.

Dense layer (in tables). A very firm, massive layer that has a bulk density of more than 1.8 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.

Depression. Any relatively sunken part of the earth's surface; especially a low-lying area surrounded by higher ground. A closed depression has no natural outlet for surface drainage. An open depression has a natural outlet for surface drainage.

Depth, soil. Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

Diversion (or diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Drainage class (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained,* and *very poorly drained*. These classes are defined in the "Soil Survey Manual."

Drainage, surface. Runoff, or surface flow of water, from an area.

Drainageway. A general term for a course or channel along which water moves in draining an area. A term restricted to relatively small, linear depressions that at some time move concentrated water and either do not have a defined channel or have only a small defined channel.

Drift. A general term applied to all mineral material (clay, silt, sand, gravel, and boulders) transported by a glacier and deposited directly by or from the ice or transported by running water emanating from a glacier. Drift includes unstratified material (till) that forms moraines and stratified deposits that form outwash plains, eskers, kames, varves, and glaciofluvial sediments. The term is generally applied to Pleistocene glacial deposits in areas that no longer contain glaciers.

Drumlin. A low, smooth, elongated oval hill, mound, or ridge of compact till that has a core of bedrock or drift. It commonly has a blunt nose facing the direction from which the ice approached and a gentler slope tapering in the other direction. The longer axis is parallel to the general direction of glacier flow. Drumlins are products of streamline (laminar) flow of glaciers, which molded the subglacial floor through a combination of erosion and deposition.

Duff. A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.

Dune. A low mound, ridge, bank, or hill of loose, windblown granular material (generally sand), either barren and capable of movement from place to place or covered and stabilized with vegetation but retaining its characteristic shape.

Earthy fill. See Mine spoil.

Eluviation. The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

End moraine. A ridgelike accumulation that is being or was produced at the outer margin of an actively flowing glacier at any given time.

Endosaturation. A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

Eolian deposit. Sand-, silt-, or clay-sized clastic material transported and deposited primarily by wind, commonly in the form of a dune or a sheet of sand or loess.

Ephemeral stream. A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.

Episaturation. A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.

Erosion. The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

Erosion surface. A land surface shaped by the action of erosion, especially by running water.

Escarpment. A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Most commonly applied to cliffs produced by differential erosion. Synonym: scarp.

Esker. A long, narrow, sinuous, steep-sided ridge of stratified sand and gravel deposited as the bed of a stream flowing in an ice tunnel within or below the ice (subglacial) or between ice walls on top of the ice of a wasting glacier and left behind as high ground when the ice melted. Eskers range in length from less than a kilometer to more than 160 kilometers and in height from 3 to 30 meters.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Fibric soil material (peat). The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

Field moisture capacity. The moisture content of a soil, expressed as a percentage of the ovendry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity, normal moisture capacity,* or *capillary capacity*.

Fill slope. A sloping surface consisting of excavated soil material from a road cut. It commonly is on the downhill side of the road.

Fine textured soil. Sandy clay, silty clay, or clay.

Firebreak. An area cleared of flammable material to stop or help control creeping or running fires. It also serves as a line from which to work and to facilitate the movement of firefighters and equipment. Designated roads also serve as firebreaks.

First bottom. An obsolete, informal term loosely applied to the lowest flood-plain steps that are subject to regular flooding.

Flaggy soil material. Material that has, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.

Flagstone. A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.

Flood plain. The nearly level plain that borders a stream and is subject to flooding unless protected artificially.

Flood-plain landforms. A variety of constructional and erosional features produced by stream channel migration and flooding. Examples include backswamps, flood-plain splays, meanders, meander belts, meander scrolls, oxbow lakes, and natural levees.

Flood-plain splay. A fan-shaped deposit or other outspread deposit formed where an overloaded stream breaks through a levee (natural or artificial) and deposits its material (commonly coarse grained) on the flood plain.

Flood-plain step. An essentially flat, terrace-like alluvial surface within a valley that is frequently covered by floodwater from the present stream; any approximately horizontal surface still actively modified by fluvial scour and/or deposition. May occur individually or as a series of steps.

Fluvial. Of or pertaining to rivers or streams; produced by stream or river action.

Footslope. The concave surface at the base of a hillslope. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

Forb. Any herbaceous plant not a grass or a sedge.

Forest cover. All trees and other woody plants (underbrush) covering the ground in a forest.

Forest type. A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.

Fragipan. A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.

Frost action (in tables). Freezing and thawing of soil moisture. Frost action can damage roads, buildings and other structures, and plant roots.

Genesis, soil. The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

Geomorphology. The science that treats the general configuration of the earth's surface; specifically the study of the classification, description, nature, origin, and development of landforms and their relationships to underlying structures, and the history of geologic changes as recorded by these surface features. The term is especially applied to the genetic interpretation of landforms.

Geosol. A buried soil that formed on a landscape in the past with distinctive morphological features resulting from a soil-forming environment that no longer exists at the site. The former pedogenic process was interrupted by burial. A geosol is a laterally traceable, mappable, geologic weathering profile that has a consistent stratigraphic position. (See Paleosol.)

Glaciofluvial deposits. Material moved by glaciers and subsequently sorted and deposited by streams flowing from the melting ice. The deposits are stratified and occur in the form of outwash plains, valley trains, deltas, kames, eskers, and kame terraces.

Glaciolacustrine deposits. Material ranging from fine clay to sand derived from glaciers and deposited in glacial lakes mainly by glacial meltwater. Many deposits are bedded or laminated.

Gleyed soil. Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

Graded stripcropping. Growing crops in strips that grade toward a protected waterway.

Grassed waterway. A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

Gravel. Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

Gravelly soil material. Material that has 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.

Green manure crop (agronomy). A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

Ground moraine. An extensive, fairly even layer of till having an uneven or undulating surface.

Ground water. Water filling all the unblocked pores of the material below the water table.

Gully. A small channel with steep sides caused by erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

Hard bedrock. Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

Hard to reclaim (in tables). Reclamation is difficult after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

Hardpan. A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.

Head slope (geomorphology). A geomorphic component of hills consisting of a laterally concave area of a hillside, especially at the head of a drainageway. The overland waterflow is converging.

Hemic soil material (mucky peat). Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.

High-residue crops. Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

Hill. A generic term for an elevated area of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline. Slopes are generally more than 15 percent. The distinction between a hill and a mountain is arbitrary and may depend on local usage.

Hillslope. A generic term for the steeper part of a hill between its summit and the drainage line, valley flat, or depression floor at the base of a hill.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the "Soil Survey Manual." The major horizons of mineral soil are as follows:

O horizon.—An organic layer of fresh and decaying plant residue.

L horizon.—A layer of organic and mineral limnic materials, including coprogenous earth (sedimentary peat), diatomaceous earth, and marl.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

Cr horizon.—Soft, consolidated bedrock beneath the soil.

R layer.—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups. Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

Igneous rock. Rock that was formed by cooling and solidification of magma and that has not been changed appreciably by weathering since its formation. Major varieties include plutonic and volcanic rock (e.g., andesite, basalt, and granite).

Illuviation. The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Impervious soil. A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration capacity. The maximum rate at which water can infiltrate into a soil under a given set of conditions.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Intake rate. The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2	very low
0.2 to 0.4	low
0.4 to 0.75	moderately low
0.75 to 1.25	moderate
1.25 to 1.75	moderately high
1.75 to 2.5	high
More than 2.5	very high

Interfluve. A landform composed of the relatively undissected upland or ridge between two adjacent valleys containing streams flowing in the same general direction. An elevated area between two drainageways that sheds water to those drainageways.

Interfluve (geomorphology). A geomorphic component of hills consisting of the uppermost, comparatively level or gently sloping area of a hill; shoulders of backwearing hillslopes can narrow the upland or can merge, resulting in a strongly convex shape.

Intermittent stream. A stream, or reach of a stream, that does not flow year-round but that is commonly dry for 3 or more months out of 12 and whose channel is generally below the local water table. It flows only during wet periods or when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Iron depletions. See Redoximorphic features.

Kame. A low mound, knob, hummock, or short irregular ridge composed of stratified sand and gravel deposited by a subglacial stream as a fan or delta at the margin of a melting glacier; by a supraglacial stream in a low place or hole on the surface of the glacier; or as a ponded deposit on the surface or at the margin of stagnant ice.

Knoll. A small, low, rounded hill rising above adjacent landforms.

Krotovinas. Irregular, tubular streaks in a soil horizon that are created when tunnels made by a burrowing animal are filled with material from another horizon.

Ksat. Saturated hydraulic conductivity. (See Permeability.)

Lacustrine deposit. Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

Lake plain. A nearly level surface marking the floor of an extinct lake filled by well sorted, generally fine textured, stratified deposits, commonly containing varves.

Lake terrace. A narrow shelf, partly cut and partly built, produced along a lakeshore in front of a scarp line of low cliffs and later exposed when the water level falls.

Lamella. A thin (commonly less than 1 centimeter thick), discontinuous or continuous, generally horizontal layer of fine material (especially clay and iron oxides) that has been pedogenically concentrated (illuviated within a coarser textured eluviated layer several centimeters to several decimeters thick).

Landscape. A collection of related natural landforms; usually the land surface which the eye can comprehend in a single view.

Large stones (in tables). Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

Leaching. The removal of soluble material from soil or other material by percolating water.

Linear extensibility. Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at $^1/_3$- or $^1/_{10}$-bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Loess. Material transported and deposited by wind and consisting dominantly of silt-sized particles.

Low strength. The soil is not strong enough to support loads.

Low-residue crops. Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

Masses. See Redoximorphic features.

Mechanical treatment. Use of mechanical equipment for seeding, brush management, and other management practices.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

Metamorphic rock. Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement at depth in the earth's crust. Nearly all such rocks are crystalline.

Mine spoil. An accumulation of displaced earthy material, rock, or other waste material removed during mining or excavation. Also called earthy fill.

Mineral soil. Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Minimum tillage. Only the tillage essential to crop production and prevention of soil damage.

Miscellaneous area. A kind of map unit that has little or no natural soil and supports little or no vegetation.

MLRA (major land resource area). A geographic area characterized by a particular pattern of land uses, elevation and topography, soils, climate, water resources, and potential natural vegetation.

Moderately coarse textured soil. Coarse sandy loam, sandy loam, or fine sandy loam.

Moderately fine textured soil. Clay loam, sandy clay loam, or silty clay loam.

Mollic epipedon. A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

Moraine. In terms of glacial geology, a mound, ridge, or other topographically distinct accumulation of unsorted, unstratified drift, predominantly till, deposited primarily by the direct action of glacial ice in a variety of landforms. Also, a general term for a landform composed mainly of till (except for kame moraines, which are composed mainly of stratified outwash) that has been deposited by a glacier. Some types of moraines are disintegration, end, ground, kame, lateral, recessional, and terminal.

Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil. Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few, common,* and *many;* size—*fine, medium,* and *coarse;* and contrast—*faint, distinct,* and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium,* from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse,* more than 15 millimeters (about 0.6 inch).

Muck. Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)

Munsell notation. A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

Natric horizon. A special kind of argillic horizon that contains enough exchangeable sodium to have an adverse effect on the physical condition of the subsoil.

Neutral soil. A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

Nodules. See Redoximorphic features.

Nose slope (geomorphology). A geomorphic component of hills consisting of the projecting end (laterally convex area) of a hillside. The overland waterflow is predominantly divergent.

Nutrient, plant. Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Organic matter. Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

Very low	less than 0.5 percent
Low	0.5 to 1.0 percent
Moderately low	1.0 to 2.0 percent
Moderate	2.0 to 4.0 percent
High	4.0 to 8.0 percent
Very high	more than 8.0 percent

Outwash. Stratified and sorted sediments (chiefly sand and gravel) removed or "washed out" from a glacier by meltwater streams and deposited in front of or beyond the end moraine or the margin of a glacier. The coarser material is deposited nearer to the ice.

Outwash plain. An extensive lowland area of coarse textured glaciofluvial material. An outwash plain is commonly smooth; where pitted, it generally is low in relief.

Paleosol. A general term used to describe a soil that formed on a landscape of the past; it may be a buried soil, a relict soil, or an exhumed soil. (See Geosol.)

Paleoterrace. An erosional remnant of a terrace that retains the surface form and alluvial deposits of its origin but was not emplaced by, and commonly does not grade to, a present-day stream or drainage network.

Pan. A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan, fragipan, claypan, plowpan,* and *traffic pan*.

Parent material. The unconsolidated organic and mineral material in which soil forms.

Peat. Unconsolidated material, largely undecomposed organic matter, that has accumulated under excess moisture. (See Fibric soil material.)

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedon. The smallest volume that can be called "a soil." A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation. The movement of water through the soil.

Percs slowly (in tables). The slow movement of water through the soil adversely affects the specified use.

Permafrost. Ground, soil, or rock that remains at or below 0 degrees C for at least 2 years. It is defined on the basis of temperature and is not necessarily frozen.

Permeability. The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as "saturated hydraulic conductivity," which is defined in the "Soil Survey Manual." In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as "permeability." Terms describing permeability, measured in inches per hour, are as follows:

Impermeable	less than 0.0015 inch
Very slow	0.0015 to 0.06 inch
Slow	0.06 to 0.2 inch
Moderately slow	0.2 to 0.6 inch
Moderate	0.6 inch to 2.0 inches
Moderately rapid	2.0 to 6.0 inches
Rapid	6.0 to 20 inches
Very rapid	more than 20 inches

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Phase, soil. A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.
Piping (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.
Plastic limit. The moisture content at which a soil changes from semisolid to plastic.
Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.
Plowpan. A compacted layer formed in the soil directly below the plowed layer.
Ponding. Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.
Poorly graded. Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.
Pore linings. See Redoximorphic features.
Potential native plant community. See Climax plant community.
Potential rooting depth (effective rooting depth). Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.
Prescribed burning. Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.
Productivity, soil. The capability of a soil for producing a specified plant or sequence of plants under specific management.
Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.
Proper grazing use. Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.
Reaction, soil. A measure of acidity or alkalinity of a soil, expressed as pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid	less than 3.5
Extremely acid	3.5 to 4.4
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Slightly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Redoximorphic concentrations. See Redoximorphic features.
Redoximorphic depletions. See Redoximorphic features.
Redoximorphic features. Redoximorphic features are associated with wetness and result from alternating periods of reduction and oxidation of iron and manganese compounds in the soil. Reduction occurs during saturation with water, and oxidation occurs when the soil is not saturated. Characteristic color patterns are created by these processes. The reduced iron and manganese ions may be

removed from a soil if vertical or lateral fluxes of water occur, in which case there is no iron or manganese precipitation in that soil. Wherever the iron and manganese are oxidized and precipitated, they form either soft masses or hard concretions or nodules. Movement of iron and manganese as a result of redoximorphic processes in a soil may result in redoximorphic features that are defined as follows:

1. Redoximorphic concentrations.—These are zones of apparent accumulation of iron-manganese oxides, including:
   A. Nodules and concretions, which are cemented bodies that can be removed from the soil intact. Concretions are distinguished from nodules on the basis of internal organization. A concretion typically has concentric layers that are visible to the naked eye. Nodules do not have visible organized internal structure; *and*
   B. Masses, which are noncemented concentrations of substances within the soil matrix; *and*
   C. Pore linings, i.e., zones of accumulation along pores that may be either coatings on pore surfaces or impregnations from the matrix adjacent to the pores.
2. Redoximorphic depletions.—These are zones of low chroma (chromas less than those in the matrix) where either iron-manganese oxides alone or both iron-manganese oxides and clay have been stripped out, including:
   A. Iron depletions, i.e., zones that contain low amounts of iron and manganese oxides but have a clay content similar to that of the adjacent matrix; *and*
   B. Clay depletions, i.e., zones that contain low amounts of iron, manganese, and clay (often referred to as silt coatings or skeletans).
3. Reduced matrix.—This is a soil matrix that has low chroma *in situ* but undergoes a change in hue or chroma within 30 minutes after the soil material has been exposed to air.

Reduced matrix. See Redoximorphic features.

Regolith. All unconsolidated earth materials above the solid bedrock. It includes material weathered in place from all kinds of bedrock and alluvial, glacial, eolian, lacustrine, and pyroclastic deposits.

Relief. The relative difference in elevation between the upland summits and the lowlands or valleys of a given region.

Residuum (residual soil material). Unconsolidated, weathered or partly weathered mineral material that accumulated as bedrock disintegrated in place.

Rill. A very small, steep-sided channel resulting from erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. A rill generally is not an obstacle to wheeled vehicles and is shallow enough to be smoothed over by ordinary tillage.

Rise. A slight increase in slope and elevation of the land surface, typically with a broad summit and gently sloping sides.

Riser. The vertical or steep side slope (e.g., escarpment) of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural, steplike landforms, such as successive stream terraces.

Road cut. A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

Rock fragments. Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Root zone. The part of the soil that can be penetrated by plant roots.

Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface

runoff. Water that enters the soil before reaching surface streams is called groundwater runoff or seepage flow from ground water.

Saline soil. A soil containing soluble salts in an amount that impairs growth of plants. A saline soil does not contain excess exchangeable sodium.

Sand. As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sandstone. Sedimentary rock containing dominantly sand-sized particles.

Sapric soil material (muck). The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.

Saturated hydraulic conductivity (Ksat). See Permeability.

Saturation. Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

Second bottom. The first terrace above the normal flood plain (or first bottom) of a river.

Sedimentary rock. A consolidated deposit of clastic particles, chemical precipitates, or organic remains accumulated at or near the surface of the earth under normal low temperature and pressure conditions. Sedimentary rocks include consolidated equivalents of alluvium, colluvium, drift, and eolian, lacustrine, and marine deposits. Examples are sandstone, siltstone, mudstone, claystone, shale, conglomerate, limestone, dolomite, and coal.

Seepage (in tables). The movement of water through the soil. Seepage adversely affects the specified use.

Sequum. A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

Series, soil. A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Shale. Sedimentary rock that formed by the hardening of a deposit of clay, silty clay, or silty clay loam and that has a tendency to split into thin layers.

Sheet erosion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Shoulder. The convex, erosional surface near the top of a hillslope. A shoulder is a transition from summit to backslope.

Shrink-swell (in tables). The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Side slope (geomorphology). A geomorphic component of hills consisting of a laterally planar area of a hillside, bounding a drainageway and lying between the drainageway and the adjacent interfluve. The overland waterflow is predominantly parallel.

Silica. A combination of silicon and oxygen. The mineral form is called quartz.

Silica-sesquioxide ratio. The ratio of the number of molecules of silica to the number of molecules of alumina and iron oxide. The more highly weathered soils or their clay fractions in warm-temperate, humid regions, and especially those in the tropics, generally have a low ratio.

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Siltstone. An indurated silt having the texture and composition of shale but lacking its fine lamination or fissility; a massive mudstone in which silt predominates over clay.

Similar soils. Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

Site index. A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.

Slickensides (pedogenic). Grooved, striated, and/or glossy (shiny) slip faces on structural peds, such as wedges; produced by shrink-swell processes, most commonly in soils that have a high content of expansive clays.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

Slope alluvium. Sediment gradually transported down the slopes of mountains or hills primarily by nonchannel alluvial processes (i.e., slope-wash processes) and characterized by particle sorting. Lateral particle sorting is evident on long slopes. In a profile sequence, sediments may be distinguished by differences in size and/or specific gravity of rock fragments and may be separated by stone lines. Burnished peds and sorting of rounded or subrounded pebbles or cobbles distinguish these materials from unsorted colluvial deposits.

Sloughed till. Water-saturated till that has flowed slowly downhill from its original place of deposit by glacial ice. It may rest on other till, on outwash, or on a glaciolacustrine deposit.

Slow refill (in tables). The slow filling of ponds, resulting from restricted permeability in the soil.

Soft bedrock. Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

Soil. A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief and by the passage of time.

Soil separates. Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand	2.0 to 1.0
Coarse sand	1.0 to 0.5
Medium sand	0.5 to 0.25
Fine sand	0.25 to 0.10
Very fine sand	0.10 to 0.05
Silt	0.05 to 0.002
Clay	less than 0.002

Solum. The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

Stone line. In a vertical cross section, a line formed by scattered fragments or a discrete layer of angular and subangular rock fragments (commonly a gravel- or cobble-sized lag concentration) that formerly was draped across a topographic surface and was later buried by additional sediments. A stone line generally caps

material that was subject to weathering, soil formation, and erosion before burial. Many stone lines seem to be buried erosion pavements, originally formed by sheet and rill erosion across the land surface.

Stones. Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

Stony. Refers to a soil containing stones in numbers that interfere with or prevent tillage.

Strath terrace. A type of stream terrace; formed as an erosional surface cut on bedrock and thinly mantled with stream deposits (alluvium).

Stream terrace. One of a series of platforms in a stream valley, flanking and more or less parallel to the stream channel, originally formed near the level of the stream; represents the remnants of an abandoned flood plain, stream bed, or valley floor produced during a former state of fluvial erosion or deposition.

Stripcropping. Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grain* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Stubble mulch. Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind erosion and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Subsoiling. Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.

Substratum. The part of the soil below the solum.

Subsurface layer. Any surface soil horizon (A, E, AB, or EB) below the surface layer.

Summer fallow. The tillage of uncropped land during the summer to control weeds and allow storage of moisture in the soil for the growth of a later crop. A practice common in semiarid regions, where annual precipitation is not enough to produce a crop every year. Summer fallow is frequently practiced before planting winter grain.

Summit. The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.

Surface layer. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the “plow layer,” or the “Ap horizon.”

Surface soil. The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

Swale. A shallow, open depression in unconsolidated materials that lacks a defined channel but can funnel overland or subsurface flow into a drainageway. A small, shallow, typically closed depression in an undulating ground moraine formed by uneven glacial deposition.

Talf. A geomorphic component of flat plains consisting of an essentially flat and broad area dominated by closed depressions and a nonintegrated or poorly integrated drainage system. Precipitation tends to pond locally, and lateral transport is slow both above and below ground. These conditions favor the accumulation of soil organic matter and a retention of fine earth sediments; better drained soils are commonly adjacent to drainageways.

Taxadjuncts. Soils that cannot be classified in a series recognized in the classification system. Such soils are named for a series they strongly resemble and are

designated as taxadjuncts to that series because they differ in ways too small to be of consequence in interpreting their use and behavior. Soils are recognized as taxadjuncts only when one or more of their characteristics are slightly outside the range defined for the family or higher taxonomic category of the series for which the soils are named.

Terminal moraine. An end moraine that marks the farthest advance of a glacier. It typically has the form of a massive arcuate or concentric ridge, or complex of ridges, and is underlain by till and other types of drift.

Terrace (conservation). An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

Terrace (geomorphology). A steplike surface, bordering a valley floor or shoreline, that represents the former position of a flood plain, lake, or seashore. The term is usually applied both to the relatively flat summit surface (tread) that was cut or built by stream or wave action and to the steeper descending slope (scarp or riser) that has graded to a lower base level of erosion.

Terracettes. Small, irregular steplike forms on steep hillslopes, especially in pasture, formed by creep or erosion of surficial materials that may be induced or enhanced by trampling of livestock, such as sheep or cattle.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or "very fine."

Thin layer (in tables). Otherwise suitable soil material that is too thin for the specified use.

Till. Dominantly unsorted and nonstratified drift, generally unconsolidated and deposited directly by a glacier without subsequent reworking by meltwater, and consisting of a heterogeneous mixture of clay, silt, sand, gravel, stones, and boulders; rock fragments of various lithologies are embedded within a finer matrix that can range from clay to sandy loam.

Till plain. An extensive area of level to gently undulating soils underlain predominantly by till and bounded at the distal end by subordinate recessional or end moraines.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toeslope. The gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.

Topsoil. The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Trace elements. Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

Tread. The flat to gently sloping, topmost, laterally extensive slope of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural steplike landforms, such as successive stream terraces.

Upland. An informal, general term for the higher ground of a region, in contrast with a low-lying adjacent area, such as a valley or plain, or for land at a higher elevation than the flood plain or low stream terrace; land above the footslope zone of the hillslope continuum.

Valley fill. In glaciated regions, material deposited in stream valleys by glacial meltwater. In nonglaciated regions, alluvium deposited by heavily loaded streams.

Valley-side alluvium. A concave “slope wash” deposit at the base of a hillslope that may or may not include the alluvial toeslope.

Variegation. Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

Varve. A sedimentary layer or a lamina or sequence of laminae deposited in a body of still water within a year. Specifically, a thin pair of graded glaciolacustrine layers seasonally deposited, usually by meltwater streams, in a glacial lake or other body of still water in front of a glacier.

Water bars. Smooth, shallow ditches or depressional areas that are excavated at an angle across a sloping road. They are used to reduce the downward velocity of water and divert it off and away from the road surface. Water bars can easily be driven over if constructed properly.

Weathering. All physical disintegration, chemical decomposition, and biologically induced changes in rocks or other deposits at or near the earth’s surface by atmospheric or biologic agents or by circulating surface waters but involving essentially no transport of the altered material.

Well graded. Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Wilting point (or permanent wilting point). The moisture content of soil, on an ovendry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Windthrow. The uprooting and tipping over of trees by the wind.

Tables

Table 1.--Temperature and Precipitation

(Recorded in the period 1971-2000 at Lincoln, Illinois)

Month	Temperature						Precipitation				
				2 years in 10 will have--				2 years in 10 will have--			
	Average daily maximum	Average daily minimum	Average	Maximum temperature higher than--	Minimum temperature lower than--	Average number of growing degree days*	Average	Less than--	More than--	Average number of days with 0.10 inch or more	Average snowfall
	°F	°F	°F	°F	°F	Units	In	In	In		In
January----	32.5	15.5	24.0	60	-16	1	1.70	0.64	2.70	4	7.0
February---	38.9	20.8	29.9	69	-10	4	1.49	.64	2.32	3	4.7
March------	50.9	30.7	40.8	81	8	42	3.10	1.76	4.28	6	2.1
April------	63.7	40.6	52.1	86	21	150	3.70	1.88	5.38	7	.5
May--------	74.6	51.6	63.1	92	33	406	4.41	2.36	6.21	7	.0
June-------	83.4	61.1	72.3	97	45	668	3.85	1.91	5.71	6	.0
July-------	86.3	64.8	75.6	98	51	791	4.34	1.93	6.46	6	.0
August-----	84.3	62.5	73.4	97	48	722	4.02	2.09	5.98	5	.0
September--	78.5	54.0	66.3	94	34	491	3.05	1.63	4.23	5	.0
October----	66.7	42.4	54.5	87	23	198	2.87	1.61	3.74	5	.0
November---	51.0	32.4	41.7	76	11	42	3.06	1.49	4.59	6	1.2
December---	38.4	21.7	30.1	66	-7	6	2.62	1.28	3.75	5	5.0
Yearly:											
Average---	62.4	41.5	52.0	---	---	---	---	---	---	---	---
Extreme---	104	-25	---	99	-17	---	---	---	---	---	---
Total-----	---	---	---	---	---	3,521	38.21	29.70	44.17	65	20.5

* A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (50 degrees F).

Table 2.--Freeze Dates in Spring and Fall

(Recorded in the period 1971-2000 at Lincoln, Illinois)

Probability	Temperature		
	24 °F or lower	28 °F or lower	32 °F or lower
Last freezing temperature in spring:			
1 year in 10 later than--	Apr. 12	Apr. 19	May 1
2 years in 10 later than--	Apr. 7	Apr. 15	Apr. 26
5 years in 10 later than--	Mar. 29	Apr. 6	Apr. 17
First freezing temperature in fall:			
1 year in 10 earlier than--	Oct. 21	Oct. 4	Sept. 29
2 years in 10 earlier than--	Oct. 26	Oct. 10	Oct. 4
5 years in 10 earlier than--	Nov. 5	Oct. 22	Oct. 13

Table 3.--Growing Season

(Recorded in the period 1971-2000 at Lincoln, Illinois)

Probability	Daily minimum temperature during growing season		
	Higher than 24 °F	Higher than 28 °F	Higher than 32 °F
	Days	Days	Days
9 years in 10	201	176	161
8 years in 10	208	184	167
5 years in 10	221	200	179
2 years in 10	235	216	191
1 year in 10	242	224	197

Table 4.--Classification of the Soils

(An asterisk in the first column indicates a taxadjunct to the series. See text for a description of those characteristics that are outside the range of the series)

Soil name	Family or higher taxonomic class
Aquents	Loamy, mixed Aquents
Birkbeck	Fine-silty, mixed, superactive, mesic Oxyaquic Hapludalfs
Bloomfield	Sandy, mixed, mesic Lamellic Hapludalfs
Bold	Coarse-silty, mixed, superactive, calcareous, mesic Typic Udorthents
Brenton	Fine-silty, mixed, superactive, mesic Aquic Argiudolls
Broadwell	Fine-silty, mixed, superactive, mesic Typic Argiudolls
*Broadwell	Fine-silty, mixed, superactive, mesic Mollic Hapludalfs
Buckhart	Fine-silty, mixed, superactive, mesic Oxyaquic Argiudolls
Camden	Fine-silty, mixed, superactive, mesic Typic Hapludalfs
Catlin	Fine-silty, mixed, superactive, mesic Oxyaquic Argiudolls
*Catlin	Fine-silty, mixed, superactive, mesic Mollic Oxyaquic Hapludalfs
Clare	Fine-silty, mixed, superactive, mesic Oxyaquic Argiudolls
Clarksdale	Fine, smectitic, mesic Udollic Endoaqualfs
Denny	Fine, smectitic, mesic Mollic Albaqualfs
Drummer	Fine-silty, mixed, superactive, mesic Typic Endoaquolls
Edgington	Fine-silty, mixed, superactive, mesic Argiaquic Argialbolls
Elburn	Fine-silty, mixed, superactive, mesic Aquic Argiudolls
*Elkhart	Fine-silty, mixed, superactive, mesic Mollic Hapludalfs
Fayette	Fine-silty, mixed, superactive, mesic Typic Hapludalfs
Harpster	Fine-silty, mixed, superactive, mesic Typic Calciaquolls
Hartsburg	Fine-silty, mixed, superactive, mesic Typic Endoaquolls
Hickory	Fine-loamy, mixed, active, mesic Typic Hapludalfs
Huntsville	Fine-silty, mixed, superactive, mesic Cumulic Hapludolls
Ipava	Fine, smectitic, mesic Aquic Argiudolls
Keomah	Fine, smectitic, mesic Aeric Endoaqualfs
Knight	Fine-silty, mixed, superactive, mesic Argiaquic Argialbolls
Landes	Coarse-loamy, mixed, superactive, mesic Fluventic Hapludolls
Lawndale	Fine-silty, mixed, superactive, mesic Aquic Argiudolls
Lawson	Fine-silty, mixed, superactive, mesic Aquic Cumulic Hapludolls
Lenzburg	Fine-loamy, mixed, active, calcareous, mesic Haplic Udarents
Miami	Fine-loamy, mixed, active, mesic Oxyaquic Hapludalfs
Middletown	Fine-silty, mixed, superactive, mesic Typic Hapludalfs
Onarga	Coarse-loamy, mixed, superactive, mesic Typic Argiudolls
*Onarga	Coarse-loamy, mixed, superactive, mesic Mollic Hapludalfs
Orthents	Loamy, mesic Udorthents
Osco	Fine-silty, mixed, superactive, mesic Typic Argiudolls
*Osco	Fine-silty, mixed, superactive, mesic Mollic Hapludalfs
Pillot	Fine-silty over sandy or sandy-skeletal, mixed, superactive, mesic Typic Argiudolls
*Pillot	Fine-silty over sandy or sandy-skeletal, mixed, superactive, mesic Mollic Hapludalfs
Plano	Fine-silty, mixed, superactive, mesic Typic Argiudolls
*Plano	Fine-silty, mixed, superactive, mesic Mollic Hapludalfs
Princeton	Fine-loamy, mixed, active, mesic Typic Hapludalfs
Proctor	Fine-silty, mixed, superactive, mesic Typic Argiudolls
*Proctor	Fine-silty, mixed, superactive, mesic Mollic Hapludalfs
Radford	Fine-silty, mixed, superactive, mesic Fluvaquentic Hapludolls
Riley	Fine-loamy over sandy or sandy-skeletal, mixed, superactive, mesic Fluvaquentic Hapludolls
Ross	Fine-loamy, mixed, superactive, mesic Cumulic Hapludolls
Rozetta	Fine-silty, mixed, superactive, mesic Typic Hapludalfs
*Rozetta	Fine-silty, mixed, superactive, mesic Oxyaquic Hapludalfs
Rushville	Fine, smectitic, mesic Typic Albaqualfs
Russell	Fine-silty, mixed, superactive, mesic Typic Hapludalfs
Sable	Fine-silty, mixed, superactive, mesic Typic Endoaquolls
Sawmill	Fine-silty, mixed, superactive, mesic Cumulic Endoaquolls
Senachwine	Fine-loamy, mixed, active, mesic Typic Hapludalfs
Shiloh	Fine, smectitic, mesic Cumulic Vertic Endoaquolls
*Sparta	Mixed, mesic Typic Udipsamments
Spaulding	Fine-silty, mixed, superactive, mesic Typic Calciaquolls

Table 4.--Classification of the Soils--Continued

Soil name	Family or higher taxonomic class
St. Charles	Fine-silty, mixed, superactive, mesic Typic Hapludalfs
Sylvan	Fine-silty, mixed, superactive, mesic Typic Hapludalfs
Tallula	Coarse-silty, mixed, superactive, mesic Typic Hapludolls
Tama	Fine-silty, mixed, superactive, mesic Typic Argiudolls
*Tama	Fine-silty, mixed, superactive, mesic Mollic Hapludalfs
Thebes	Fine-silty, mixed, superactive, mesic Typic Hapludalfs
Thorp	Fine-silty, mixed, superactive, mesic Argiaquic Argialbolls
Tice	Fine-silty, mixed, superactive, mesic Fluvaquentic Hapludolls
*Wyanet	Fine-loamy, mixed, active, mesic Mollic Hapludalfs
Zook	Fine, smectitic, mesic Cumulic Vertic Endoaquolls

Table 5.--Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
16A	Rushville silt loam, 0 to 2 percent slopes	707	0.2
17A	Keomah silt loam, 0 to 2 percent slopes	4,930	1.2
27D2	Miami silt loam, 10 to 18 percent slopes, eroded	30	*
36A	Tama silt loam, 0 to 2 percent slopes	786	0.2
36B	Tama silt loam, 2 to 5 percent slopes	5,819	1.5
36C2	Tama silt loam, 5 to 10 percent slopes, eroded	3,284	0.8
36D2	Tama silt loam, 10 to 18 percent slopes, eroded	504	0.1
43A	Ipava silt loam, 0 to 2 percent slopes	77,688	19.6
45A	Denny silt loam, 0 to 2 percent slopes	1,152	0.3
67A	Harpster silty clay loam, 0 to 2 percent slopes	322	*
68A	Sable silty clay loam, 0 to 2 percent slopes	79,327	20.0
86B	Osco silt loam, 2 to 5 percent slopes	17,078	4.3
86C2	Osco silt loam, 5 to 10 percent slopes, eroded	4,311	1.1
134C2	Camden silt loam, 5 to 10 percent slopes, eroded	238	*
134C3	Camden silty clay loam, 5 to 10 percent slopes, severely eroded	278	*
138A	Shiloh silty clay loam, 0 to 2 percent slopes	2,570	0.6
148B	Proctor silt loam, 2 to 5 percent slopes	646	0.2
148C2	Proctor silt loam, 5 to 10 percent slopes, eroded	1,261	0.3
148D2	Proctor silt loam, 10 to 18 percent slopes, eroded	180	*
149A	Brenton silt loam, 0 to 2 percent slopes	161	*
152A	Drummer silty clay loam, 0 to 2 percent slopes	5,500	1.4
159B	Pillot silt loam, 2 to 5 percent slopes	540	0.1
159C2	Pillot silt loam, 5 to 10 percent slopes, eroded	794	0.2
171B	Catlin silt loam, 2 to 5 percent slopes	1,242	0.3
171C2	Catlin silt loam, 5 to 10 percent slopes, eroded	4,373	1.1
171D2	Catlin silt loam, 10 to 18 percent slopes, eroded	403	0.1
191A	Knight silt loam, 0 to 2 percent slopes	6,109	1.5
198A	Elburn silt loam, 0 to 2 percent slopes	4,970	1.3
199A	Plano silt loam, 0 to 2 percent slopes	10,059	2.5
199B	Plano silt loam, 2 to 5 percent slopes	3,161	0.8
199C2	Plano silt loam, 5 to 10 percent slopes, eroded	1,263	0.3
206A	Thorp silt loam, 0 to 2 percent slopes	6	*
212C2	Thebes silt loam, 5 to 10 percent slopes, eroded	286	*
233B	Birkbeck silt loam, 2 to 5 percent slopes	211	*
233C2	Birkbeck silt loam, 5 to 10 percent slopes, eroded	987	0.2
243A	St. Charles silt loam, 0 to 2 percent slopes	591	0.1
243B	St. Charles silt loam, 2 to 5 percent slopes	1,208	0.3
243C2	St. Charles silt loam, 5 to 10 percent slopes, eroded	756	0.2
244A	Hartsburg silty clay loam, 0 to 2 percent slopes	8,913	2.2
257A	Clarksdale silt loam, 0 to 2 percent slopes	2,237	0.6
272A	Edgington silt loam, 0 to 2 percent slopes	1,190	0.3
279A	Rozetta silt loam, 0 to 2 percent slopes	1,003	0.3
279B	Rozetta silt loam, 2 to 5 percent slopes	5,639	1.4
279B2	Rozetta silt loam, 2 to 5 percent slopes, eroded	543	0.1
279C2	Rozetta silt loam, 5 to 10 percent slopes, eroded	2,754	0.7
279C3	Rozetta silty clay loam, 5 to 10 percent slopes, severely eroded	164	*
279D2	Rozetta silt loam, 10 to 18 percent slopes, eroded	701	0.2
280C2	Fayette silt loam, 5 to 10 percent slopes, eroded	599	0.2
280D2	Fayette silt loam, 10 to 18 percent slopes, eroded	586	0.1
374A	Proctor silt loam, sandy substratum, 0 to 2 percent slopes	438	0.1
533	Urban land	36	*
567C2	Elkhart silt loam, 5 to 10 percent slopes, eroded	606	0.2
618F	Senachwine silt loam, 18 to 35 percent slopes	772	0.2
622C2	Wyanet silt loam, 5 to 10 percent slopes, eroded	496	0.1
622D2	Wyanet silt loam, 10 to 18 percent slopes, eroded	528	0.1
663A	Clare silt loam, 0 to 2 percent slopes	7	*
683A	Lawndale silt loam, 0 to 2 percent slopes	2,872	0.7
684A	Broadwell silt loam, 0 to 2 percent slopes	2,165	0.5
684B	Broadwell silt loam, 2 to 5 percent slopes	5,559	1.4
684C2	Broadwell silt loam, 5 to 10 percent slopes, eroded	1,835	0.5
685B	Middletown silt loam, 2 to 5 percent slopes	784	0.2
685C2	Middletown silt loam, 5 to 10 percent slopes, eroded	891	0.2
685D2	Middletown silt loam, 10 to 18 percent slopes, eroded	523	0.1

See footnote at end of table.

Table 5.--Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
705A	Buckhart silt loam, 0 to 2 percent slopes	8,546	2.2
705B	Buckhart silt loam, 2 to 5 percent slopes	7,685	1.9
712A	Spaulding silty clay loam, 0 to 2 percent slopes	4,374	1.1
726A	Elburn silt loam, sandy substratum, 0 to 2 percent slopes	1,521	0.4
733C2	Birkbeck-Senachwine silt loams, 5 to 10 percent slopes, eroded	428	0.1
733C3	Birkbeck-Senachwine complex, 5 to 10 percent slopes, severely eroded	810	0.2
736D2	Senachwine-Russell silt loams, 10 to 18 percent slopes, eroded	1,868	0.5
737A	Tama silt loam, very deep to sand, 0 to 2 percent slopes	5,226	1.3
737B	Tama silt loam, very deep to sand, 2 to 5 percent slopes	9,458	2.4
737C2	Tama silt loam, very deep to sand, 5 to 10 percent slopes, eroded	786	0.2
748A	Plano silt loam, sandy substratum, 0 to 2 percent slopes	2,291	0.6
748B	Plano silt loam, sandy substratum, 2 to 5 percent slopes	5,933	1.5
748C2	Plano silt loam, sandy substratum, 5 to 10 percent slopes, eroded	2,004	0.5
749B	Buckhart silt loam, till substratum, 2 to 5 percent slopes	3,873	1.0
802B	Orthents, loamy, undulating	622	0.2
802E	Orthents, loamy, hilly	180	*
827A	Broadwell-Onarga complex, 0 to 2 percent slopes	166	*
827B	Broadwell-Onarga complex, 2 to 5 percent slopes	1,620	0.4
827B2	Broadwell-Onarga complex, 2 to 5 percent slopes, eroded	453	0.1
828D2	Broadwell-Sparta complex, 7 to 15 percent slopes, eroded	712	0.2
830	Landfills	110	*
861B2	Princeton-Bloomfield fine sands, 1 to 7 percent slopes, eroded	334	*
861D2	Princeton-Bloomfield fine sands, 7 to 15 percent slopes, eroded	1,518	0.4
861F	Princeton-Bloomfield fine sands, 15 to 35 percent slopes	612	0.2
864	Pits, quarries	68	*
865	Pits, gravel	127	*
871B	Lenzburg silt loam, 1 to 7 percent slopes	207	*
871D	Lenzburg silty clay loam, 7 to 20 percent slopes	250	*
898F2	Hickory-Sylvan complex, 18 to 35 percent slopes, eroded	903	0.2
965C2	Tallula-Bold silt loams, 5 to 10 percent slopes, eroded	132	*
965D2	Tallula-Bold silt loams, 10 to 18 percent slopes, eroded	588	0.1
3073A	Ross silt loam, 0 to 2 percent slopes, frequently flooded	663	0.2
3074A	Radford silt loam, 0 to 2 percent slopes, frequently flooded	2,123	0.5
3077A	Huntsville silt loam, 0 to 2 percent slopes, frequently flooded	1,176	0.3
3107+	Sawmill silt loam, overwash, 0 to 2 percent slopes, frequently flooded	3,276	0.8
3107A	Sawmill silty clay loam, 0 to 2 percent slopes, frequently flooded	14,672	3.7
3107S	Sawmill silty clay loam, sandy substratum, 0 to 2 percent slopes, frequently flooded	2,586	0.7
3284A	Tice silty clay loam, 0 to 2 percent slopes, frequently flooded	732	0.2
3284S	Tice silty clay loam, sandy substratum, 0 to 2 percent slopes, frequently flooded	4,379	1.1
3304A	Landes fine sandy loam, 0 to 2 percent slopes, frequently flooded	371	*
3405A	Zook silty clay loam, 0 to 2 percent slopes, frequently flooded	1,209	0.3
3408A	Aquents, loamy, level, frequently flooded	31	*
3451A	Lawson silt loam, 0 to 2 percent slopes, frequently flooded	4,692	1.2
7148A	Proctor silt loam, 0 to 2 percent slopes, rarely flooded	351	*
7191A	Knight silt loam, 0 to 2 percent slopes, rarely flooded	677	0.2
7198A	Elburn silt loam, 0 to 2 percent slopes, rarely flooded	2,239	0.6
7199A	Plano silt loam, 0 to 2 percent slopes, rarely flooded	867	0.2
7304A	Landes fine sandy loam, 0 to 2 percent slopes, rarely flooded	59	*
8074A	Radford silt loam, 0 to 2 percent slopes, occasionally flooded	36	*
8107+	Sawmill silt loam, overwash, 0 to 2 percent slopes, occasionally flooded	831	0.2
8107A	Sawmill silty clay loam, 0 to 2 percent slopes, occasionally flooded	3,298	0.8
8284A	Tice silty clay loam, 0 to 2 percent slopes, occasionally flooded	439	0.1
8451A	Lawson silt loam, 0 to 2 percent slopes, occasionally flooded	62	*
8452A	Riley loam, 0 to 2 percent slopes, occasionally flooded	13	*
M-W	Miscellaneous water	214	*
W	Water	2,282	0.6
	Total	396,255	100.0

* Less than 0.1 percent.

Table 6.--Limitations and Hazards Affecting Cropland and Pastureland

(See text for a description of the limitations and hazards listed in this table. Only the soils that are generally available for use as cropland or pastureland are listed. Absence of an entry indicates that the soil is generally not suited to use as cropland or pastureland)

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
16A:		
Rushville	Ponding, crusting	Ponding, low pH, frost heave
17A:		
Keomah	Wetness, crusting	Wetness, low pH
27D2:		
Miami	High pH, crusting, water erosion	High pH, water erosion
36A:		
Tama	No major limitations	Generally not used as pastureland
36B:		
Tama	Water erosion	Generally not used as pastureland
36C2:		
Tama	Crusting, water erosion	Low pH, water erosion
36D2:		
Tama	Crusting, water erosion	Low pH, water erosion
43A:		
Ipava	Wetness	Generally not used as pastureland
45A:		
Denny	Ponding, crusting	Generally not used as pastureland
67A:		
Harpster	Ponding, poor tilth, excess lime	Generally not used as pastureland
68A:		
Sable	Ponding, poor tilth	Generally not used as pastureland
86B:		
Osco	Water erosion	Generally not used as pastureland
86C2:		
Osco	Crusting, water erosion	Low pH, water erosion
134C2:		
Camden	Crusting, water erosion	Low pH, water erosion
134C3:		
Camden	Poor tilth, crusting, water erosion	Poor tilth, low pH, water erosion, low fertility
138A:		
Shiloh	Ponding, poor tilth	Generally not used as pastureland
148B:		
Proctor	Water erosion	Generally not used as pastureland
148C2:		
Proctor	Water erosion	Water erosion

Table 6.--Limitations and Hazards Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
148D2:		
Proctor	Water erosion	Water erosion
149A:		
Brenton	Wetness	Generally not used as pastureland
152A:		
Drummer	Ponding, poor tilth	Generally not used as pastureland
159B:		
Pillot	Water erosion, excessive permeability	Excessive permeability
159C2:		
Pillot	Water erosion, excessive permeability	Water erosion, excessive permeability
171B:		
Catlin	Water erosion	Generally not used as pastureland
171C2:		
Catlin	Water erosion	Water erosion
171D2:		
Catlin	Water erosion	Water erosion
191A:		
Knight	Ponding	Generally not used as pastureland
198A:		
Elburn	Wetness	Generally not used as pastureland
199A:		
Plano	No major limitations	Generally not used as pastureland
199B:		
Plano	Water erosion	Generally not used as pastureland
199C2:		
Plano	Water erosion	Low pH, water erosion
206A:		
Thorp	Ponding	Generally not used as pastureland
212C2:		
Thebes	Crusting, water erosion, excessive permeability	Low pH, water erosion, excessive permeability
233B:		
Birkbeck	Crusting, water erosion	Low pH, water erosion
233C2:		
Birkbeck	Crusting, water erosion	Low pH, water erosion
243A:		
St. Charles	Crusting	Low pH
243B:		
St. Charles	Crusting, water erosion	Low pH, water erosion
243C2:		
St. Charles	Crusting, water erosion	Low pH, water erosion

Table 6.--Limitations and Hazards Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
244A:		
Hartsburg	Ponding, high pH, poor tilth	Generally not used as pastureland
257A:		
Clarksdale	Wetness, crusting	Wetness, low pH
272A:		
Edgington	Ponding	Generally not used as pastureland
279A:		
Rozetta	Crusting	Low pH
279B:		
Rozetta	Crusting, water erosion	Low pH, water erosion
279B2:		
Rozetta	Crusting, water erosion	Water erosion
279C2:		
Rozetta	Crusting, water erosion	Low pH, water erosion
279C3:		
Rozetta	Poor tilth, crusting, water erosion	Poor tilth, low pH, water erosion, low fertility
279D2:		
Rozetta	Crusting, water erosion	Low pH, water erosion
280C2:		
Fayette	Crusting, water erosion	Low pH, water erosion
280D2:		
Fayette	Crusting, water erosion	Low pH, water erosion
374A:		
Proctor, sandy substratum	Excessive permeability	Generally not used as pastureland
567C2:		
Elkhart	High pH, crusting, water erosion	High pH, water erosion
618F:		
Senachwine	---	Equipment limitation, low pH, water erosion
622C2:		
Wyanet	High pH, crusting, water erosion	High pH, water erosion
622D2:		
Wyanet	High pH, crusting, water erosion	High pH, water erosion
663A:		
Clare	No major limitations	Generally not used as pastureland
683A:		
Lawndale	Wetness, excessive permeability	Generally not used as pastureland
684A:		
Broadwell	Excessive permeability	Generally not used as pastureland

Table 6.--Limitations and Hazards Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
684B:		
Broadwell	Water erosion, excessive permeability	Excessive permeability
684C2:		
Broadwell	Water erosion, excessive permeability	Water erosion, excessive permeability
685B:		
Middletown	Crusting, water erosion, excessive permeability	Low pH, water erosion, excessive permeability
685C2:		
Middletown	Crusting, water erosion, excessive permeability	Low pH, water erosion, excessive permeability
685D2:		
Middletown	Crusting, water erosion, excessive permeability	Low pH, water erosion, excessive permeability
705A:		
Buckhart	No major limitations	Generally not used as pastureland
705B:		
Buckhart	Water erosion	Generally not used as pastureland
712A:		
Spaulding	Ponding, excess lime, poor tilth	Generally not used as pastureland
726A:		
Elburn, sandy substratum	Wetness, excessive permeability	Generally not used as pastureland
733C2:		
Birkbeck	Crusting, water erosion	Low pH, water erosion
Senachwine	High pH, crusting, water erosion	High pH, water erosion
733C3:		
Birkbeck	Poor tilth, crusting, water erosion	Poor tilth, low pH, water erosion, low fertility
Senachwine	Poor tilth, high pH, crusting, water erosion	Poor tilth, high pH, water erosion, low fertility
736D2:		
Senachwine	High pH, crusting, water erosion	High pH, water erosion
Russell	Crusting, water erosion	Low pH, water erosion
737A:		
Tama, very deep to sand--	No major limitations	Generally not used as pastureland
737B:		
Tama, very deep to sand--	Water erosion	Generally not used as pastureland
737C2:		
Tama, very deep to sand--	Water erosion	Water erosion

Table 6.--Limitations and Hazards Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
748A:		
Plano, sandy substratum--	Excessive permeability	Generally not used as pastureland
748B:		
Plano, sandy substratum--	Water erosion, excessive permeability	Generally not used as pastureland
748C2:		
Plano, sandy substratum--	Water erosion, excessive permeability	Water erosion, excessive permeability
749B:		
Buckhart, till substratum	Water erosion	Generally not used as pastureland
802B:		
Orthents, loamy----------	Generally not used as cropland	Generally not used as pastureland
802E:		
Orthents, loamy----------	---	Generally not used as pastureland
827A:		
Broadwell----------	Excessive permeability	Excessive permeability
Onarga----------	Excessive permeability	Low pH, excessive permeability
827B:		
Broadwell----------	Water erosion, excessive permeability	Excessive permeability
Onarga----------	Excessive permeability	Low pH, excessive permeability
827B2:		
Broadwell----------	Water erosion, excessive permeability	Water erosion, excessive permeability
Onarga----------	Excessive permeability	Low pH, excessive permeability
828D2:		
Broadwell----------	---	Water erosion, excessive permeability
Sparta----------	---	Low pH, wind erosion, limited available water capacity, excessive permeability
861B2:		
Princeton----------	Wind erosion, excessive permeability	Low pH, wind erosion, low fertility, excessive permeability
Bloomfield----------	Wind erosion, limited available water capacity, excessive permeability	Low pH, wind erosion, limited available water capacity, low fertility, excessive permeability
861D2:		
Princeton----------	Water erosion, wind erosion, excessive permeability	Low pH, water erosion, wind erosion, low fertility, excessive permeability
Bloomfield----------	Wind erosion, limited available water capacity, excessive permeability	Low pH, wind erosion, limited available water capacity, low fertility, excessive permeability

Table 6.--Limitations and Hazards Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
861F:		
Princeton	---	Equipment limitation, low pH, water erosion, low fertility, excessive permeability, wind erosion
Bloomfield	---	Equipment limitation, low pH, low fertility, excessive permeability, wind erosion, limited available water capacity
871B:		
Lenzburg	Generally not used as cropland	Water erosion, low fertility, excess lime
871D:		
Lenzburg	---	Water erosion, low fertility, excess lime
898F2:		
Hickory	---	Equipment limitation, low pH, water erosion
Sylvan	---	Equipment limitation, high pH, water erosion
965C2:		
Tallula	High pH, water erosion	High pH, water erosion
Bold	Excess lime, water erosion	Water erosion, excess lime
965D2:		
Tallula	High pH, water erosion	High pH, water erosion
Bold	Excess lime, water erosion	Water erosion, excess lime
3073A:		
Ross	Flooding	Generally not used as pastureland
3074A:		
Radford	Flooding, wetness	Flooding, wetness
3077A:		
Huntsville	Flooding	Generally not used as pastureland
3107+:		
Sawmill	Flooding, wetness	Generally not used as pastureland
3107A:		
Sawmill	Flooding, ponding, poor tilth	Flooding, ponding, frost heave, poor tilth
3107S:		
Sawmill, sandy substratum	Flooding, ponding, poor tilth	Generally not used as pastureland
3284A:		
Tice	Flooding, wetness, poor tilth	Generally not used as pastureland
3284S:		
Tice, sandy substratum	Flooding, wetness, poor tilth,	Generally not used as pastureland

Table 6.--Limitations and Hazards Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
3304A:		
Landes	Flooding, limited available water capacity	Generally not used as pastureland
3405A:		
Zook	Flooding, ponding, poor tilth	Generally not used as pastureland
3408A:		
Aquents, loamy	---	Generally not used as pastureland
3451A:		
Lawson	Flooding, wetness	Generally not used as pastureland
7148A:		
Proctor	No major limitations	Generally not used as pastureland
7191A:		
Knight	Ponding	Generally not used as pastureland
7198A:		
Elburn	Wetness	Generally not used as pastureland
7199A:		
Plano	No major limitations	Generally not used as pastureland
7304A:		
Landes	Limited available water capacity, excessive permeability	Generally not used as pastureland
8074A:		
Radford	Flooding, wetness	Generally not used as pastureland
8107+:		
Sawmill	Flooding, wetness	Generally not used as pastureland
8107A:		
Sawmill	Flooding, ponding, poor tilth	Generally not used as pastureland
8284A:		
Tice	Flooding, wetness, poor tilth	Generally not used as pastureland
8451A:		
Lawson	Flooding, wetness	Generally not used as pastureland
8452A:		
Riley	Flooding, wetness, excessive permeability	Generally not used as pastureland

Table 7.--Land Capability and Yields per Acre of Crops and Pasture

(Yields for crops are those that can be expected under a high level of management, and yields for pasture are those that can be expected under an average level of management. All yields are for nonirrigated areas. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Oats	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Bu	Tons	AUM*
16A---------- Rushville	3w	133	43	---	---	4.18	6.20
17A---------- Keomah	2w	145	46	59	75	4.63	6.80
27D2---------- Miami	4e	119	38	47	59	3.32	4.80
36A---------- Tama	1	169	54	66	88	---	---
36B---------- Tama	2e	167	53	65	87	---	---
36C2---------- Tama	3e	157	50	61	82	6.09	8.80
36D2---------- Tama	3e	147	47	57	77	5.70	8.20
43A---------- Ipava	1	172	56	69	90	---	---
45A---------- Denny	3w	143	47	---	---	---	---
67A---------- Harpster	2w	164	52	---	---	---	---
68A---------- Sable	2w	173	57	---	---	---	---
86B---------- Osco	2e	170	53	67	91	---	---
86C2---------- Osco	3e	160	50	63	86	5.78	8.30
134C2---------- Camden	3e	139	43	54	73	3.99	5.80
134C3---------- Camden	4e	128	40	50	67	3.70	5.30
138A---------- Shiloh	2w	158	52	---	---	---	---
148B---------- Proctor	2e	164	51	62	88	---	---
148C2---------- Proctor	3e	154	48	59	83	5.36	7.70

See footnote at end of table.

Table 7.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Oats	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Bu	Tons	AUM*
148D2---- Proctor	3e	144	45	55	77	5.00	7.20
149A---- Brenton	1	176	54	67	95	---	---
152A---- Drummer	2w	175	57	---	---	---	---
159B---- Pillot	2e	145	48	57	72	4.10	6.10
159C2---- Pillot	3e	136	45	54	68	3.90	5.80
171B---- Catlin	2e	166	52	65	88	---	---
171C2---- Catlin	3e	156	49	61	83	5.67	8.30
171D2---- Catlin	3e	146	46	57	77	5.30	7.70
191A---- Knight	2w	146	48	---	---	---	---
198A---- Elburn	1	178	55	67	85	---	---
199A---- Plano	1	175	54	67	93	---	---
199B---- Plano	2e	173	53	66	92	---	---
199C2---- Plano	3e	163	50	62	87	5.89	8.60
206A---- Thorp	2w	153	50	---	---	---	---
212C2---- Thebes	3e	126	41	49	65	3.40	4.90
233B---- Birkbeck	2e	149	47	59	78	4.58	6.76
233C2---- Birkbeck	3e	140	44	56	74	4.31	6.30
243A---- St. Charles	1	151	47	59	78	4.63	6.80
243B---- St. Charles	2e	149	47	58	77	4.58	6.80
243C2---- St. Charles	3e	140	44	55	73	4.31	6.30

See footnote at end of table.

Table 7.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Oats	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Bu	Tons	AUM*
244A---------- Hartsburg	2w	164	53	---	---	---	---
257A---------- Clarksdale	2w	157	50	62	80	4.75	7.00
272A---------- Edgington	2w	150	49	---	---	---	---
279A---------- Rozetta	1	148	46	59	76	4.75	7.00
279B---------- Rozetta	2e	147	46	58	75	4.70	6.90
279B2---------- Rozetta	2e	141	44	56	72	4.51	6.60
279C2---------- Rozetta	3e	138	43	55	71	4.42	6.50
279C3---------- Rozetta	4e	127	40	51	65	4.10	5.80
279D2---------- Rozetta	3e	129	40	51	66	4.10	6.00
280C2---------- Fayette	3e	140	44	56	72	4.42	6.40
280D2---------- Fayette	3e	131	41	52	67	4.11	5.90
374A---------- Proctor, sandy substratum	1	149	48	59	79	---	---
533. Urban land							
567C2---------- Elkhart	3e	143	46	55	68	4.42	6.50
618F---------- Senachwine	6e	---	---	---	---	2.37	3.45
622C2---------- Wyanet	3e	135	44	55	66	4.42	6.40
622D2---------- Wyanet	3e	126	41	51	62	4.10	6.00
663A---------- Clare	1	164	51	63	87	---	---
683A---------- Lawndale	1	178	55	67	97	---	---

See footnote at end of table.

Table 7.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Oats	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Bu	Tons	AUM*
684A---------- Broadwell	1	169	53	66	90	---	---
684B---------- Broadwell	2e	167	52	65	89	6.04	8.80
684C2---------- Broadwell	3e	157	49	61	84	5.70	8.30
685B---------- Middletown	2e	144	44	58	75	4.14	6.00
685C2---------- Middletown	3e	136	41	55	71	3.89	5.60
685D2---------- Middletown	3e	127	38	51	66	3.60	5.30
705A---------- Buckhart	1	171	55	67	90	---	---
705B---------- Buckhart	2e	169	54	66	89	---	---
712A---------- Spaulding	2w	164	53	---	---	---	---
726A---------- Elburn, sandy substratum	1	169	52	60	89	---	---
733C2----------		133	42	53	68	3.77	5.50
Birkbeck----------	3e						
Senachwine----------	3e						
733C3----------		124	38	49	62	3.50	5.00
Birkbeck----------	4e						
Senachwine----------	4e						
736D2----------		122	38	46	60	3.24	4.70
Senachwine----------	4e						
Russell----------	3e						
737A---------- Tama, very deep to sand	1	169	54	66	88	---	---
737B---------- Tama, very deep to sand	2e	167	52	65	87	---	---
737C2---------- Tama, very deep to sand	3e	157	50	61	82	6.09	8.80
748A---------- Plano, sandy substratum	1	168	51	61	88	---	---

See footnote at end of table.

Table 7.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Oats	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Bu	Tons	AUM*
748B Plano, sandy substratum	2e	166	50	60	87	---	---
748C2 Plano, sandy substratum	3e	156	47	57	82	5.70	8.00
749B Buckhart, till substratum	2e	169	54	66	89	---	---
802B Orthents, loamy	2e	---	---	---	---	---	---
802E Orthents, loamy	6e	---	---	---	---	---	---
827A		155	49	62	82	5.15	7.60
Broadwell	1						
Onarga	2s						
827B		153	48	61	81	5.10	7.50
Broadwell	2e						
Onarga	2e						
827B2		147	46	59	78	4.88	7.50
Broadwell	2e						
Onarga	2e						
828D2		---	---	---	---	4.52	6.58
Broadwell	3e						
Sparta	6s						
830. Landfills							
861B2		108	41	44	---	3.34	5.08
Princeton	2e						
Bloomfield	3s						
861D2		99	31	40	---	3.10	4.54
Princeton	4e						
Bloomfield	4e						
861F		---	---	---	---	2.67	3.84
Princeton	6e						
Bloomfield	6e						
864. Pits, quarries							
865. Pits, gravel							
871B Lenzburg	2e	---	---	---	---	3.58	5.20

See footnote at end of table.

Table 7.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Oats	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Bu	Tons	AUM*
871D---------- Lenzburg	6e	---	---	---	---	3.29	4.80
898F2---------- Hickory---------- Sylvan----------	 6e 6e	---	---	---	---	2.50	3.40
965C2---------- Tallula---------- Bold----------	 3e 3e	140	42	52	67	3.92	5.70
965D2---------- Tallula---------- Bold----------	 4e 4e	131	40	48	62	3.62	4.96
3073A---------- Ross	3w	147	48	---	---	---	---
3074A---------- Radford	3w	150	48	---	---	4.47	6.70
3077A---------- Huntsville	3w	157	50	---	---	---	---
3107+---------- Sawmill	3w	153	49	---	---	---	---
3107A---------- Sawmill	3w	153	49	---	---	4.68	6.90
3107S---------- Sawmill, sandy substratum	3w	153	49	---	---	---	---
3284A---------- Tice	3w	149	46	---	---	---	---
3284S---------- Tice, sandy substratum	3w	149	46	---	---	---	---
3304A---------- Landes	3w	109	37	---	---	---	---
3405A---------- Zook	3w	123	42	---	---	---	---
3408A---------- Aquents, loamy	5w	---	---	---	---	---	---
3451A---------- Lawson	3w	154	50	---	---	---	---
7148A---------- Proctor	1	166	52	63	89	---	---
7191A---------- Knight	2w	146	48	---	---	---	---

See footnote at end of table.

Table 7.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Oats	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Bu	Tons	AUM*
7198A---------- Elburn	1	178	55	67	85	---	---
7199A---------- Plano	1	175	54	67	93	---	---
7304A---------- Landes	2s	121	41	50	55	---	---
8074A---------- Radford	2w	167	53	66	89	---	---
8107+---------- Sawmill	2w	170	54	---	---	---	---
8107A---------- Sawmill	2w	170	54	---	---	---	---
8284A---------- Tice	2w	166	51	63	86	---	---
8451A---------- Lawson	2w	171	55	66	87	---	---
8452A---------- Riley	2w	155	50	60	70	---	---

* Animal unit month: The amount of forage required to feed one mature cow, of approximately 1,000 pounds weight, with or without a calf, for 30 days.

Table 8.--Prime Farmland

(Only the soils considered prime farmland are listed. Urban or built-up areas of the soils listed are not considered prime farmland. If a soil is prime farmland only under certain conditions, the conditions are specified in parentheses after the soil name)

Map symbol	Soil name
17A	Keomah silt loam, 0 to 2 percent slopes (where drained)
36A	Tama silt loam, 0 to 2 percent slopes
36B	Tama silt loam, 2 to 5 percent slopes
43A	Ipava silt loam, 0 to 2 percent slopes
45A	Denny silt loam, 0 to 2 percent slopes (where drained)
67A	Harpster silty clay loam, 0 to 2 percent slopes (where drained)
68A	Sable silty clay loam, 0 to 2 percent slopes (where drained)
86B	Osco silt loam, 2 to 5 percent slopes
138A	Shiloh silty clay loam, 0 to 2 percent slopes (where drained)
148B	Proctor silt loam, 2 to 5 percent slopes
149A	Brenton silt loam, 0 to 2 percent slopes
152A	Drummer silty clay loam, 0 to 2 percent slopes (where drained)
159B	Pillot silt loam, 2 to 5 percent slopes
171B	Catlin silt loam, 2 to 5 percent slopes
191A	Knight silt loam, 0 to 2 percent slopes (where drained)
198A	Elburn silt loam, 0 to 2 percent slopes
199A	Plano silt loam, 0 to 2 percent slopes
199B	Plano silt loam, 2 to 5 percent slopes
206A	Thorp silt loam, 0 to 2 percent slopes (where drained)
233B	Birkbeck silt loam, 2 to 5 percent slopes
243A	St. Charles silt loam, 0 to 2 percent slopes
243B	St. Charles silt loam, 2 to 5 percent slopes
244A	Hartsburg silty clay loam, 0 to 2 percent slopes (where drained)
257A	Clarksdale silt loam, 0 to 2 percent slopes (where drained)
272A	Edgington silt loam, 0 to 2 percent slopes (where drained)
279A	Rozetta silt loam, 0 to 2 percent slopes
279B	Rozetta silt loam, 2 to 5 percent slopes
279B2	Rozetta silt loam, 2 to 5 percent slopes, eroded
374A	Proctor silt loam, sandy substratum, 0 to 2 percent slopes
663A	Clare silt loam, 0 to 2 percent slopes
683A	Lawndale silt loam, 0 to 2 percent slopes
684A	Broadwell silt loam, 0 to 2 percent slopes
684B	Broadwell silt loam, 2 to 5 percent slopes
685B	Middletown silt loam, 2 to 5 percent slopes
705A	Buckhart silt loam, 0 to 2 percent slopes
705B	Buckhart silt loam, 2 to 5 percent slopes
712A	Spaulding silty clay loam, 0 to 2 percent slopes (where drained)
726A	Elburn silt loam, sandy substratum, 0 to 2 percent slopes
737A	Tama silt loam, very deep to sand, 0 to 2 percent slopes
737B	Tama silt loam, very deep to sand, 2 to 5 percent slopes
748A	Plano silt loam, sandy substratum, 0 to 2 percent slopes
748B	Plano silt loam, sandy substratum, 2 to 5 percent slopes
749B	Buckhart silt loam, till substratum, 2 to 5 percent slopes
827A	Broadwell-Onarga complex, 0 to 2 percent slopes
827B	Broadwell-Onarga complex, 2 to 5 percent slopes
827B2	Broadwell-Onarga complex, 2 to 5 percent slopes, eroded
861B2	Princeton-Bloomfield fine sands, 1 to 7 percent slopes, eroded
861D2	Princeton-Bloomfield fine sands, 7 to 15 percent slopes, eroded
871B	Lenzburg silt loam, 1 to 7 percent slopes
3073A	Ross silt loam, 0 to 2 percent slopes, frequently flooded (where protected from flooding or not frequently flooded during the growing season)
3074A	Radford silt loam, 0 to 2 percent slopes, frequently flooded (where protected from flooding or not frequently flooded during the growing season)
3077A	Huntsville silt loam, 0 to 2 percent slopes, frequently flooded (where protected from flooding or not frequently flooded during the growing season)
3107+	Sawmill silt loam, overwash, 0 to 2 percent slopes, frequently flooded (where drained and either protected from flooding or not frequently flooded during the growing season)
3107A	Sawmill silty clay loam, 0 to 2 percent slopes, frequently flooded (where drained and either protected from flooding or not frequently flooded during the growing season)

Table 8.--Prime Farmland--Continued

Map symbol	Soil name
3107S	Sawmill silty clay loam, sandy substratum, 0 to 2 percent slopes, frequently flooded (where drained and either protected from flooding or not frequently flooded during the growing season)
3284A	Tice silty clay loam, 0 to 2 percent slopes, frequently flooded (where protected from flooding or not frequently flooded during the growing season)
3284S	Tice silty clay loam, sandy substratum, 0 to 2 percent slopes, frequently flooded (where protected from flooding or not frequently flooded during the growing season)
3304A	Landes fine sandy loam, 0 to 2 percent slopes, frequently flooded (where protected from flooding or not frequently flooded during the growing season)
3405A	Zook silty clay loam, 0 to 2 percent slopes, frequently flooded (where drained and either protected from flooding or not frequently flooded during the growing season)
3451A	Lawson silt loam, 0 to 2 percent slopes, frequently flooded (where protected from flooding or not frequently flooded during the growing season)
7148A	Proctor silt loam, 0 to 2 percent slopes, rarely flooded
7191A	Knight silt loam, 0 to 2 percent slopes, rarely flooded (where drained)
7198A	Elburn silt loam, 0 to 2 percent slopes, rarely flooded
7199A	Plano silt loam, 0 to 2 percent slopes, rarely flooded
7304A	Landes fine sandy loam, 0 to 2 percent slopes, rarely flooded
8074A	Radford silt loam, 0 to 2 percent slopes, occasionally flooded
8107+	Sawmill silt loam, overwash, 0 to 2 percent slopes, occasionally flooded (where drained)
8107A	Sawmill silty clay loam, 0 to 2 percent slopes, occasionally flooded (where drained)
8284A	Tice silty clay loam, 0 to 2 percent slopes, occasionally flooded
8451A	Lawson silt loam, 0 to 2 percent slopes, occasionally flooded
8452A	Riley loam, 0 to 2 percent slopes, occasionally flooded

Table 9.--Hydric Soils

(Only those map units that have hydric components are listed. See text for a description of hydric qualities and definitions of the hydric criteria codes)

Map symbol and map unit name	Component	Hydric status	Local landform	Hydric criteria code
16A:				
Rushville silt loam, 0 to 2 percent slopes	Rushville	Hydric	ground moraine, depression	2B3
17A:				
Keomah silt loam, 0 to 2 percent slopes	Keomah	Not hydric	ground moraine	---
	Rushville	Hydric	depression	2B3
43A:				
Ipava silt loam, 0 to 2 percent slopes	Ipava	Not hydric	ground moraine	---
	Sable	Hydric	depression	2B3
	Denny	Hydric	depression	2B3
45A:				
Denny silt loam, 0 to 2 percent slopes	Denny	Hydric	depression	2B3
67A:				
Harpster silty clay loam, 0 to 2 percent slopes	Harpster	Hydric	outwash plain, stream terrace	2B3
68A:				
Sable silty clay loam, 0 to 2 percent slopes	Sable	Hydric	ground moraine	2B3
138A:				
Shiloh silty clay loam, 0 to 2 percent slopes	Shiloh	Hydric	depression	2B3
149A:				
Brenton silt loam, 0 to 2 percent slopes	Brenton	Not hydric	outwash plain, stream terrace	---
	Drummer	Hydric	swale	2B3
152A:				
Drummer silty clay loam, 0 to 2 percent slopes	Drummer	Hydric	outwash plain, stream terrace	2B3
191A:				
Knight silt loam, 0 to 2 percent slopes	Knight	Hydric	outwash plain, stream terrace	2B3
198A:				
Elburn silt loam, 0 to 2 percent slopes	Elburn	Not hydric	outwash plain, stream terrace	---
	Drummer	Hydric	swale	2B3
199A:				
Plano silt loam, 0 to 2 percent slopes	Plano	Not hydric	outwash plain, stream terrace	---
	Knight	Hydric	depression	2B3
206A:				
Thorp silt loam, 0 to 2 percent slopes	Thorp	Hydric	depression	2B3

Table 9.--Hydric Soils--Continued

Map symbol and map unit name	Component	Hydric status	Local landform	Hydric criteria code
244A:				
Hartsburg silty clay loam, 0 to 2 percent slopes	Hartsburg	Hydric	ground moraine	2B3
257A:				
Clarksdale silt loam, 0 to 2 percent slopes	Clarksdale	Not hydric	ground moraine	---
	Denny	Hydric	depression	2B3
272A:				
Edgington silt loam, 0 to 2 percent slopes	Edgington	Hydric	depression, ground moraine	2B3
279A:				
Rozetta silt loam, 0 to 2 percent slopes	Rozetta	Not hydric	ground moraine	---
	Denny	Hydric	depression	2B3
663A:				
Clare silt loam, 0 to 2 percent slopes	Clare	Not hydric	outwash plain	---
	Drummer	Hydric	swale	2B3
683A:				
Lawndale silt loam, 0 to 2 percent slopes	Lawndale	Not hydric	flat, ground moraine	---
	Knight	Hydric	depression	2B3
	Sable	Hydric	depression	2B3
705A:				
Buckhart silt loam, 0 to 2 percent slopes	Buckhart	Not hydric	ground moraine, knoll	---
	Denny	Hydric	depression	2B3
712A:				
Spaulding silty clay loam, 0 to 2 percent slopes	Spaulding	Hydric	ground moraine, depression	2B3
726A:				
Elburn silt loam, sandy substratum, 0 to 2 percent slopes	Elburn	Not hydric	outwash plain	---
	Sable	Hydric	depression	2B3
737A:				
Tama silt loam, very deep to sand, 0 to 2 percent slopes	Tama	Not hydric	outwash plain	---
	Knight	Hydric	depression	2B3
748A:				
Plano silt loam, sandy substratum, 0 to 2 percent slopes	Plano	Not hydric	outwash plain	---
	Knight	Hydric	depression	2B3
3073A:				
Ross silt loam, 0 to 2 percent slopes, frequently flooded	Ross	Not hydric	flood plain	---
	Sawmill	Hydric	swale	2B3
3074A:				
Radford silt loam, 0 to 2 percent slopes, frequently flooded	Radford	Not hydric	flood plain	---
	Sawmill	Hydric	swale	2B3
3077A:				
Huntsville silt loam, 0 to 2 percent slopes, frequently flooded	Huntsville	Not hydric	flood plain	---
	Sawmill	Hydric	flood plain, swale	2B3
3107+:				
Sawmill silt loam, overwash, 0 to 2 percent slopes, frequently flooded	Sawmill	Hydric	flood plain	2B3

Table 9.--Hydric Soils--Continued

Map symbol and map unit name	Component	Hydric status	Local landform	Hydric criteria code
3107A:				
Sawmill silty clay loam, 0 to 2 percent slopes, frequently flooded	Sawmill	Hydric	flood plain	2B3
3107S:				
Sawmill silty clay loam, sandy substratum, 0 to 2 percent slopes, frequently flooded	Sawmill	Hydric	flood plain	2B3
3284A:				
Tice silty clay loam, 0 to 2 percent slopes, frequently flooded	Tice	Not hydric	flood plain	---
	Sawmill	Hydric	swale	2B3
3284S:				
Tice silty clay loam, sandy substratum, 0 to 2 percent slopes, frequently flooded	Tice	Not hydric	flood plain	---
	Sawmill	Hydric	swale	2B3
3405A:				
Zook silty clay loam, 0 to 2 percent slopes, frequently flooded	Zook	Hydric	flood plain	2B3
3408A:				
Aquents, loamy, level, frequently flooded	Aquents	Hydric	depression, flood plain	2B3,3
3451A:				
Lawson silt loam, 0 to 2 percent slopes, frequently flooded	Lawson	Not hydric	flood plain	---
	Sawmill	Hydric	swale	2B3
7148A:				
Proctor silt loam, 0 to 2 percent slopes, rarely flooded	Proctor	Not hydric	flood-plain step	---
	Sawmill	Hydric	flood plain, swale	2B3
7191A:				
Knight silt loam, 0 to 2 percent slopes, rarely flooded	Knight	Hydric	flood-plain step	2B3
7198A:				
Elburn silt loam, 0 to 2 percent slopes, rarely flooded	Elburn	Not hydric	flood-plain step	---
	Sawmill	Hydric	swale	2B3
7199A:				
Plano silt loam, 0 to 2 percent slopes, rarely flooded	Plano	Not hydric	flood-plain step	---
	Sawmill	Hydric	flood plain	2B3
8074A:				
Radford silt loam, 0 to 2 percent slopes, occasionally flooded	Radford	Not hydric	flood plain	---
	Sawmill	Hydric	swale	2B3
8107+:				
Sawmill silt loam, overwash, 0 to 2 percent slopes, occasionally flooded	Sawmill	Hydric	flood plain	2B3
8107A:				
Sawmill silty clay loam, 0 to 2 percent slopes, occasionally flooded	Sawmill	Hydric	flood plain	2B3

Table 9.--Hydric Soils--Continued

Map symbol and map unit name	Component	Hydric status	Local landform	Hydric criteria code
8284A:				
Tice silty clay loam, 0 to 2 percent slopes, occasionally flooded	Tice Sawmill	Not hydric Hydric	flood plain swale	--- 2B3
8451A:				
Lawson silt loam, 0 to 2 percent slopes, occasionally flooded	Lawson Sawmill	Not hydric Hydric	flood plain swale	--- 2B3
8452A:				
Riley loam, 0 to 2 percent slopes, occasionally flooded	Riley Sawmill	Not hydric Hydric	flood plain swale	--- 2B3

Table 10.--Windbreaks and Environmental Plantings

(Absence of an entry indicates that trees generally do not grow to the given height)

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
16A:					
Rushville	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
17A:					
Keomah	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
27D2:					
Miami	American hazelnut, black chokeberry, common winterberry, coralberry, gray dogwood, mapleleaf viburnum	American plum, American witchhazel, Arnold hawthorn, blackhaw, common chokecherry, common serviceberry, prairie crabapple	Douglas fir, arborvitae, black walnut, blackgum, blue spruce, bur oak, eastern redcedar, pecan	Norway spruce, common hackberry, pin oak, tuliptree	Carolina poplar, eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
36A:					
Tama	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
36B:					
Tama	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
36C2:					
Tama	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
36D2:					
Tama	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
43A:					
Ipava	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
45A:					
Denny	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
67A:					
Harpster	Common winterberry, gray dogwood, redosier dogwood	Common pawpaw, nannyberry, roughleaf dogwood, silky dogwood	Arborvitae, bur oak, common hackberry, eastern redcedar, green hawthorn	Carolina poplar, eastern cottonwood	---
68A:					
Sable	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
86B:					
Osco	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
86C2:					
Osco	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
134C2:					
Camden	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
134C3:					
Camden	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
138A:					
Shiloh	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
148B:					
Proctor	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
148C2:					
Proctor	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
148D2:					
Proctor	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
149A:					
Brenton	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
152A:					
Drummer	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
159B:					
Pillot	American cranberrybush, American hazelnut, black chokeberry, common chokecherry, common elderberry, common juniper, coralberry, mapleleaf viburnum, silky dogwood	American plum, bur oak, chinkapin oak, common serviceberry, eastern redcedar, nannyberry, prairie crabapple, roughleaf dogwood, smooth sumac	Black oak, common hackberry, eastern white pine	Carolina poplar-----	---

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
159C2:					
Pillot	American cranberrybush, American hazelnut, black chokeberry, common chokecherry, common elderberry, common juniper, coralberry, mapleleaf viburnum, silky dogwood	American plum, bur oak, chinkapin oak, common serviceberry, eastern redcedar, nannyberry, prairie crabapple, roughleaf dogwood, smooth sumac	Black oak, common hackberry, eastern white pine	Carolina poplar	---
171B:					
Catlin	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
171C2:					
Catlin	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
171D2:					
Catlin	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
191A:					
Knight	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
198A:					
Elburn	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
199A:					
Plano	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
199B:					
Plano	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
199C2:					
Plano	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
206A:					
Thorp	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
212C2:					
Thebes	American cranberrybush, American hazelnut, black chokeberry, common chokecherry, common elderberry, common juniper, coralberry, mapleleaf viburnum, silky dogwood	American plum, bur oak, chinkapin oak, common serviceberry, eastern redcedar, nannyberry, prairie crabapple, roughleaf dogwood, smooth sumac	Black oak, common hackberry, eastern white pine	Carolina poplar-----	---

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
233B:					
Birkbeck	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
233C2:					
Birkbeck	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
243A:					
St. Charles	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
243B:					
St. Charles	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
243C2:					
St. Charles	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
244A:					
Hartsburg	Common winterberry, gray dogwood, redosier dogwood	Common pawpaw, nannyberry, roughleaf dogwood, silky dogwood	Arborvitae, bur oak, common hackberry, eastern redcedar, green hawthorn	Carolina poplar, eastern cottonwood	---
257A:					
Clarksdale	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
272A:					
Edgington	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
279A:					
Rozetta	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
279B:					
Rozetta	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
279B2:					
Rozetta	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
279C2:					
Rozetta	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
279C3:					
Rozetta	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
279D2:					
Rozetta	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
280C2:					
Fayette	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
280D2:					
Fayette	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
374A: Proctor, sandy substratum	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
533. Urban land					
567C2: Elkhart	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
618F: Senachwine	American hazelnut, black chokeberry, common winterberry, coralberry, gray dogwood, mapleleaf viburnum	American plum, American witchhazel, Arnold hawthorn, blackhaw, common chokecherry, common serviceberry, prairie crabapple	Douglas fir, arborvitae, blackgum, blue spruce, bur oak, eastern redcedar, pecan	Norway spruce, common hackberry, pin oak, tuliptree	Carolina poplar, eastern white pine
622C2: Wyanet	American hazelnut, black chokeberry, common winterberry, coralberry, gray dogwood, mapleleaf viburnum	American plum, American witchhazel, Arnold hawthorn, blackhaw, common chokecherry, common serviceberry, prairie crabapple	Douglas fir, arborvitae, black walnut, blackgum, blue spruce, bur oak, eastern redcedar, pecan	Norway spruce, common hackberry, pin oak, tuliptree	Carolina poplar, eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
622D2:					
Wyanet	American hazelnut, black chokeberry, common winterberry, coralberry, gray dogwood, mapleleaf viburnum	American plum, American witchhazel, Arnold hawthorn, blackhaw, common chokecherry, common serviceberry, prairie crabapple	Douglas fir, arborvitae, black walnut, blackgum, blue spruce, bur oak, eastern redcedar, pecan	Norway spruce, common hackberry, pin oak, tuliptree	Carolina poplar, eastern white pine
663A:					
Clare	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
683A:					
Lawndale	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
684A:					
Broadwell	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
684B:					
Broadwell	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
684C2:					
Broadwell	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
685B:					
Middletown	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
685C2:					
Middletown	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
685D2:					
Middletown	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
705A:					
Buckhart	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
705B:					
Buckhart	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
712A:					
Spaulding	Common winterberry, gray dogwood, redosier dogwood	Common pawpaw, nannyberry, roughleaf dogwood, silky dogwood	Arborvitae, bur oak, common hackberry, eastern redcedar, green hawthorn	Carolina poplar, eastern cottonwood	---

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
726A:					
Elburn, sandy substratum	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
733C2:					
Birkbeck	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
Senachwine	American hazelnut, black chokeberry, common winterberry, coralberry, gray dogwood, mapleleaf viburnum	American plum, American witchhazel, Arnold hawthorn, blackhaw, common chokecherry, common serviceberry, prairie crabapple	Douglas fir, arborvitae, black walnut, blackgum, blue spruce, bur oak, eastern redcedar, pecan	Norway spruce, common hackberry, pin oak, tuliptree	Carolina poplar, eastern white pine
733C3:					
Birkbeck	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
733C3:					
Senachwine	American hazelnut, black chokeberry, common winterberry, coralberry, gray dogwood, mapleleaf viburnum	American plum, American witchhazel, Arnold hawthorn, blackhaw, common chokecherry, common serviceberry, prairie crabapple	Douglas fir, arborvitae, black walnut, blackgum, blue spruce, bur oak, eastern redcedar, pecan	Norway spruce, common hackberry, pin oak, tuliptree	Carolina poplar, eastern white pine
736D2:					
Senachwine	American hazelnut, black chokeberry, common winterberry, coralberry, gray dogwood, mapleleaf viburnum	American plum, American witchhazel, Arnold hawthorn, blackhaw, common chokecherry, common serviceberry, prairie crabapple	Douglas fir, arborvitae, black walnut, blackgum, blue spruce, bur oak, eastern redcedar, pecan	Norway spruce, common hackberry, pin oak, tuliptree	Carolina poplar, eastern white pine
Russell	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
737A:					
Tama, very deep to sand	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
737B:					
Tama, very deep to sand	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
737C2:					
Tama, very deep to sand	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
748A:					
Plano, sandy substratum	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
748B:					
Plano, sandy substratum	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
748C2: Plano, sandy substratum	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
749B: Buckhart, till substratum	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
802B: Orthents, loamy	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
802E: Orthents, loamy	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
827A:					
Broadwell	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
Onarga	American hazelnut, black chokeberry, common winterberry, coralberry, gray dogwood, mapleleaf viburnum	American plum, American witchhazel, Arnold hawthorn, blackhaw, common chokecherry, common serviceberry, prairie crabapple	Douglas fir, arborvitae, black walnut, blackgum, blue spruce, bur oak, eastern redcedar, pecan	Norway spruce, common hackberry, pin oak, tuliptree	Carolina poplar, eastern white pine
827B:					
Broadwell	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
Onarga	American hazelnut, black chokeberry, common winterberry, coralberry, gray dogwood, mapleleaf viburnum	American plum, American witchhazel, Arnold hawthorn, blackhaw, common chokecherry, common serviceberry, prairie crabapple	Douglas fir, arborvitae, black walnut, blackgum, blue spruce, bur oak, eastern redcedar, pecan	Norway spruce, common hackberry, pin oak, tuliptree	Carolina poplar, eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
827B2:					
Broadwell	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
Onarga	American hazelnut, black chokeberry, common winterberry, coralberry, gray dogwood, mapleleaf viburnum	American plum, American witchhazel, Arnold hawthorn, blackhaw, common chokecherry, common serviceberry, prairie crabapple	Douglas fir, arborvitae, black walnut, blackgum, blue spruce, bur oak, eastern redcedar, pecan	Norway spruce, common hackberry, pin oak, tuliptree	Carolina poplar, eastern white pine
828D2:					
Broadwell	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
Sparta	American hazelnut, common elderberry, common winterberry, coralberry, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, alternateleaf dogwood, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, southern arrowwood, staghorn sumac	Washington hawthorn, blue spruce, common hackberry, eastern redcedar, red maple	Carolina poplar-----	Eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
830. Landfills					
861B2: Princeton	American hazelnut, black chokeberry, common winterberry, coralberry, gray dogwood, mapleleaf viburnum	American plum, American witchhazel, Arnold hawthorn, blackhaw, common chokecherry, common serviceberry, prairie crabapple	Douglas fir, arborvitae, black walnut, blackgum, blue spruce, bur oak, eastern redcedar, pecan	Norway spruce, common hackberry, pin oak, tuliptree	Carolina poplar, eastern white pine
Bloomfield	American hazelnut, common elderberry, common winterberry, coralberry, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, alternateleaf dogwood, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, southern arrowwood, staghorn sumac	Washington hawthorn, blue spruce, common hackberry, eastern redcedar, red maple	Carolina poplar-----	Eastern white pine
861D2: Princeton	American hazelnut, black chokeberry, common winterberry, coralberry, gray dogwood, mapleleaf viburnum	American plum, American witchhazel, Arnold hawthorn, blackhaw, common chokecherry, common serviceberry, prairie crabapple	Douglas fir, arborvitae, black walnut, blackgum, blue spruce, bur oak, eastern redcedar, pecan	Norway spruce, common hackberry, pin oak, tuliptree	Carolina poplar, eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
861D2:					
Bloomfield	American hazelnut, common elderberry, common winterberry, coralberry, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, alternateleaf dogwood, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, southern arrowwood, staghorn sumac	Washington hawthorn, blue spruce, common hackberry, eastern redcedar, red maple	Carolina poplar	Eastern white pine
861F:					
Princeton	American hazelnut, black chokeberry, common winterberry, coralberry, gray dogwood, mapleleaf viburnum	American plum, American witchhazel, Arnold hawthorn, blackhaw, common chokecherry, common serviceberry, prairie crabapple	Douglas fir, arborvitae, blackgum, blue spruce, bur oak, eastern redcedar, pecan	Norway spruce, common hackberry, pin oak, tuliptree	Carolina poplar, eastern white pine
Bloomfield	American hazelnut, common elderberry, common winterberry, coralberry, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, alternateleaf dogwood, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, southern arrowwood, staghorn sumac	Washington hawthorn, blue spruce, common hackberry, eastern redcedar, red maple	Carolina poplar	Eastern white pine
864. Pits, quarries					
865. Pits, gravel					

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
871B:					
Lenzburg	American plum, black chokeberry, blackhaw, common juniper, gray dogwood, mapleleaf viburnum	Cockspur hawthorn, common serviceberry, eastern redcedar, nannyberry, prairie crabapple	Bur oak, chinkapin oak	---	---
871D:					
Lenzburg	American plum, black chokeberry, blackhaw, common juniper, gray dogwood, mapleleaf viburnum	Cockspur hawthorn, common serviceberry, eastern redcedar, nannyberry, prairie crabapple	Bur oak, chinkapin oak	---	---
898F2:					
Hickory	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
Sylvan	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
965C2:					
Tallula	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
Bold	American hazelnut, coralberry, mapleleaf viburnum, redosier dogwood	Common serviceberry, downy arrowwood, eastern redcedar, southern arrowwood	Austrian pine, blue spruce, bur oak, chinkapin oak, common hackberry	Eastern cottonwood--	Carolina poplar
965D2:					
Tallula	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
Bold	American hazelnut, coralberry, mapleleaf viburnum, redosier dogwood	Common serviceberry, downy arrowwood, eastern redcedar, southern arrowwood	Austrian pine, blue spruce, bur oak, chinkapin oak, common hackberry	Eastern cottonwood--	Carolina poplar
3073A:					
Ross	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
3074A: Radford	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
3077A: Huntsville	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
3107+: Sawmill	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
3107A: Sawmill	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
3107S: Sawmill, sandy substratum	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
3284A: Tice	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
3284S:					
Tice, sandy substratum--	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
3304A:					
Landes	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
3405A:					
Zook	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
3408A: Aquents, loamy	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
3451A: Lawson	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
7148A: Proctor	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
7191A: Knight	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
7198A: Elburn	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
7199A: Plano	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
7304A:					
Landes	American hazelnut, common elderberry, common winterberry, coralberry, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, alternateleaf dogwood, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, southern arrowwood, staghorn sumac	Washington hawthorn, blue spruce, common hackberry, eastern redcedar, red maple	Carolina poplar	Eastern white pine
8074A:					
Radford	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
8107+:					
Sawmill	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
8107A: Sawmill	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
8284A: Tice	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
8451A: Lawson	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
8452A: Riley	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 11a.--Forestland Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
16A:						
Rushville	Moderate		Poorly suited		Severe	
	Low strength	0.50	Ponding	1.00	Low strength	1.00
			Wetness	1.00		
			Low strength	0.50		
17A:						
Keomah	Moderate		Moderately suited		Severe	
	Low strength	0.50	Wetness	0.50	Low strength	1.00
			Low strength	0.50		
27D2:						
Miami	Moderate		Poorly suited		Severe	
	Low strength	0.50	Slope	1.00	Low strength	1.00
			Low strength	0.50		
36A:						
Tama	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
36B:						
Tama	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
36C2:						
Tama	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
			Slope	0.50		
36D2:						
Tama	Moderate		Poorly suited		Severe	
	Low strength	0.50	Slope	1.00	Low strength	1.00
			Low strength	0.50		
43A:						
Ipava	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
			Wetness	0.50		
45A:						
Denny	Moderate		Poorly suited		Severe	
	Low strength	0.50	Ponding	1.00	Low strength	1.00
			Wetness	1.00		
			Low strength	0.50		
67A:						
Harpster	Moderate		Poorly suited		Severe	
	Low strength	0.50	Ponding	1.00	Low strength	1.00
			Wetness	1.00		
			Low strength	0.50		

Table 11a.--Forestland Management--Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
68A:						
Sable	Moderate		Poorly suited		Severe	
	Low strength	0.50	Ponding	1.00	Low strength	1.00
			Wetness	1.00		
			Low strength	0.50		
86B:						
Osco	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
86C2:						
Osco	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
			Slope	0.50		
134C2:						
Camden	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
			Slope	0.50		
134C3:						
Camden	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
			Slope	0.50		
138A:						
Shiloh	Moderate		Poorly suited		Severe	
	Low strength	0.50	Ponding	1.00	Low strength	1.00
			Wetness	1.00		
			Low strength	0.50		
148B:						
Proctor	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
148C2:						
Proctor	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
			Slope	0.50		
148D2:						
Proctor	Moderate		Poorly suited		Severe	
	Low strength	0.50	Slope	1.00	Low strength	1.00
			Low strength	0.50		
149A:						
Brenton	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
			Wetness	0.50		
152A:						
Drummer	Moderate		Poorly suited		Severe	
	Low strength	0.50	Ponding	1.00	Low strength	1.00
			Wetness	1.00		
			Low strength	0.50		
159B:						
Pillot	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00

Table 11a.--Forestland Management--Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
159C2:						
Pillot	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
			Slope	0.50		
171B:						
Catlin	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
171C2:						
Catlin	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
			Slope	0.50		
171D2:						
Catlin	Moderate		Poorly suited		Severe	
	Low strength	0.50	Slope	1.00	Low strength	1.00
			Low strength	0.50		
191A:						
Knight	Moderate		Poorly suited		Severe	
	Low strength	0.50	Ponding	1.00	Low strength	1.00
			Wetness	1.00		
			Low strength	0.50		
198A:						
Elburn	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
			Wetness	0.50		
199A:						
Plano	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
199B:						
Plano	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
199C2:						
Plano	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
			Slope	0.50		
206A:						
Thorp	Moderate		Poorly suited		Severe	
	Low strength	0.50	Ponding	1.00	Low strength	1.00
			Wetness	1.00		
			Low strength	0.50		
212C2:						
Thebes	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
			Slope	0.50		
233B:						
Birkbeck	Slight		Moderately suited		Severe	
			Low strength	0.50	Low strength	1.00

Table 11a.--Forestland Management--Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
233C2:						
Birkbeck	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
			Slope	0.50		
243A:						
St. Charles	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
243B:						
St. Charles	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
243C2:						
St. Charles	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
			Slope	0.50		
244A:						
Hartsburg	Moderate		Poorly suited		Severe	
	Low strength	0.50	Ponding	1.00	Low strength	1.00
			Wetness	1.00		
			Low strength	0.50		
257A:						
Clarksdale	Moderate		Moderately suited		Severe	
	Low strength	0.50	Wetness	0.50	Low strength	1.00
			Low strength	0.50		
272A:						
Edgington	Moderate		Poorly suited		Severe	
	Low strength	0.50	Ponding	1.00	Low strength	1.00
			Wetness	1.00		
			Low strength	0.50		
279A:						
Rozetta	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
279B:						
Rozetta	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
279B2:						
Rozetta	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
279C2:						
Rozetta	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
			Slope	0.50		
279C3:						
Rozetta	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
			Slope	0.50		

Table 11a.--Forestland Management--Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
279D2:						
Rozetta	Moderate		Poorly suited		Severe	
	Low strength	0.50	Slope	1.00	Low strength	1.00
			Low strength	0.50		
280C2:						
Fayette	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
			Slope	0.50		
280D2:						
Fayette	Moderate		Poorly suited		Severe	
	Low strength	0.50	Slope	1.00	Low strength	1.00
			Low strength	0.50		
374A:						
Proctor, sandy substratum	Moderate		Moderately suited		Severe	
	Low strength	0.50	Sandiness	0.50	Low strength	1.00
	Sandiness	0.50	Low strength	0.50		
533:						
Urban land	Not rated		Not rated		Not rated	
567C2:						
Elkhart	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
			Slope	0.50		
618F:						
Senachwine	Moderate		Poorly suited		Severe	
	Slope	0.50	Slope	1.00	Low strength	1.00
			Low strength	0.50		
622C2:						
Wyanet	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
			Slope	0.50		
622D2:						
Wyanet	Moderate		Poorly suited		Severe	
	Low strength	0.50	Slope	1.00	Low strength	1.00
			Low strength	0.50		
663A:						
Clare	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
683A:						
Lawndale	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
			Wetness	0.50		
684A:						
Broadwell	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
684B:						
Broadwell	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00

Table 11a.--Forestland Management--Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
684C2:						
Broadwell	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
			Slope	0.50		
685B:						
Middletown	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
685C2:						
Middletown	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
			Slope	0.50		
685D2:						
Middletown	Moderate		Poorly suited		Severe	
	Low strength	0.50	Slope	1.00	Low strength	1.00
			Low strength	0.50		
705A:						
Buckhart	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
705B:						
Buckhart	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
712A:						
Spaulding	Moderate		Poorly suited		Severe	
	Low strength	0.50	Ponding	1.00	Low strength	1.00
			Wetness	1.00		
			Low strength	0.50		
726A:						
Elburn, sandy substratum	Moderate		Moderately suited		Severe	
	Low strength	0.50	Sandiness	0.50	Low strength	1.00
	Sandiness	0.50	Low strength	0.50		
			Wetness	0.50		
733C2:						
Birkbeck	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
			Slope	0.50		
Senachwine	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
			Slope	0.50		
733C3:						
Birkbeck	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
			Slope	0.50		
Senachwine	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
			Slope	0.50		

Table 11a.--Forestland Management--Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
736D2:						
Senachwine	Moderate		Poorly suited		Severe	
	Low strength	0.50	Slope	1.00	Low strength	1.00
			Low strength	0.50		
Russell	Moderate		Poorly suited		Severe	
	Low strength	0.50	Slope	1.00	Low strength	1.00
			Low strength	0.50		
737A:						
Tama, very deep to sand	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
737B:						
Tama, very deep to sand	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
737C2:						
Tama, very deep to sand	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
			Slope	0.50		
748A:						
Plano, sandy substratum	Moderate		Moderately suited		Severe	
	Low strength	0.50	Sandiness	0.50	Low strength	1.00
	Sandiness	0.50	Low strength	0.50		
748B:						
Plano, sandy substratum	Moderate		Moderately suited		Severe	
	Low strength	0.50	Sandiness	0.50	Low strength	1.00
	Sandiness	0.50	Low strength	0.50		
748C2:						
Plano, sandy substratum	Moderate		Moderately suited		Severe	
	Low strength	0.50	Sandiness	0.50	Low strength	1.00
	Sandiness	0.50	Low strength	0.50		
			Slope	0.50		
749B:						
Buckhart, till substratum	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
802B:						
Orthents, loamy	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
802E:						
Orthents, loamy	Moderate		Poorly suited		Severe	
	Slope	0.50	Slope	1.00	Low strength	1.00
			Low strength	0.50		

Table 11a.--Forestland Management--Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
827A:						
Broadwell	Moderate Low strength	 0.50	Moderately suited Low strength	 0.50	Severe Low strength	 1.00
Onarga	Slight		Well suited		Moderate Low strength	 0.50
827B:						
Broadwell	Moderate Low strength	 0.50	Moderately suited Low strength	 0.50	Severe Low strength	 1.00
Onarga	Slight		Well suited		Moderate Low strength	 0.50
827B2:						
Broadwell	Moderate Low strength	 0.50	Moderately suited Low strength	 0.50	Severe Low strength	 1.00
Onarga	Slight		Well suited		Moderate Low strength	 0.50
828D2:						
Broadwell	Moderate Low strength	 0.50	Moderately suited Slope Low strength	 0.50 0.50	Severe Low strength	 1.00
Sparta	Slight		Moderately suited Slope	 0.50	Moderate Low strength	 0.50
830:						
Landfills	Not rated		Not rated		Not rated	
861B2:						
Princeton	Moderate Sandiness	 0.50	Moderately suited Sandiness	 0.50	Moderate Low strength	 0.50
Bloomfield	Moderate Sandiness	 0.50	Moderately suited Sandiness	 0.50	Moderate Low strength	 0.50
861D2:						
Princeton	Moderate Sandiness	 0.50	Moderately suited Slope Sandiness	 0.50 0.50	Moderate Low strength	 0.50
Bloomfield	Moderate Sandiness	 0.50	Moderately suited Slope Sandiness	 0.50 0.50	Moderate Low strength	 0.50
861F:						
Princeton	Moderate Slope Sandiness	 0.50 0.50	Poorly suited Slope Sandiness	 1.00 0.50	Moderate Low strength	 0.50
Bloomfield	Moderate Slope Sandiness	 0.50 0.50	Poorly suited Slope Sandiness	 1.00 0.50	Moderate Low strength	 0.50
864:						
Pits, quarries	Not rated		Not rated		Not rated	

Table 11a.--Forestland Management--Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
865:						
Pits, gravel	Not rated		Not rated		Not rated	
871B:						
Lenzburg	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
871D:						
Lenzburg	Moderate		Poorly suited		Severe	
	Low strength	0.50	Slope	1.00	Low strength	1.00
			Low strength	0.50		
898F2:						
Hickory	Moderate		Poorly suited		Severe	
	Slope	0.50	Slope	1.00	Low strength	1.00
			Low strength	0.50		
Sylvan	Moderate		Poorly suited		Severe	
	Slope	0.50	Slope	1.00	Low strength	1.00
			Low strength	0.50		
965C2:						
Tallula	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
			Slope	0.50		
Bold	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
			Slope	0.50		
965D2:						
Tallula	Moderate		Poorly suited		Severe	
	Low strength	0.50	Slope	1.00	Low strength	1.00
			Low strength	0.50		
Bold	Moderate		Poorly suited		Severe	
	Low strength	0.50	Slope	1.00	Low strength	1.00
			Low strength	0.50		
3073A:						
Ross	Severe		Poorly suited		Severe	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
3074A:						
Radford	Severe		Poorly suited		Severe	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
			Wetness	0.50		
3077A:						
Huntsville	Severe		Poorly suited		Severe	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
3107+:						
Sawmill	Severe		Poorly suited		Severe	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Low strength	0.50	Wetness	1.00		
			Low strength	0.50		

Table 11a.--Forestland Management--Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3107A:						
Sawmill	Severe		Poorly suited		Severe	
	Flooding	1.00	Ponding	1.00	Low strength	1.00
	Low strength	0.50	Flooding	1.00		
			Wetness	1.00		
			Low strength	0.50		
3107S:						
Sawmill, sandy substratum	Severe		Poorly suited		Severe	
	Flooding	1.00	Ponding	1.00	Low strength	1.00
	Low strength	0.50	Flooding	1.00		
			Wetness	1.00		
			Low strength	0.50		
3284A:						
Tice	Severe		Poorly suited		Severe	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
			Wetness	0.50		
3284S:						
Tice, sandy substratum	Severe		Poorly suited		Severe	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
			Wetness	0.50		
3304A:						
Landes	Severe		Poorly suited		Moderate	
	Flooding	1.00	Flooding	1.00	Low strength	0.50
3405A:						
Zook	Severe		Poorly suited		Severe	
	Flooding	1.00	Ponding	1.00	Low strength	1.00
	Low strength	0.50	Flooding	1.00		
			Wetness	1.00		
			Low strength	0.50		
3408A:						
Aquents, loamy	Severe		Poorly suited		Severe	
	Flooding	1.00	Ponding	1.00	Low strength	1.00
	Wetness	1.00	Flooding	1.00	Wetness	0.50
	Low strength	0.50	Wetness	1.00		
			Low strength	0.50		
3451A:						
Lawson	Severe		Poorly suited		Severe	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
			Wetness	0.50		
7148A:						
Proctor	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00

Table 11a.--Forestland Management--Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
7191A:						
Knight	Moderate		Poorly suited		Severe	
	Low strength	0.50	Ponding	1.00	Low strength	1.00
			Wetness	1.00		
			Low strength	0.50		
7198A:						
Elburn	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
			Wetness	0.50		
7199A:						
Plano	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
7304A:						
Landes	Slight		Well suited		Moderate	
					Low strength	0.50
8074A:						
Radford	Severe		Poorly suited		Severe	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
			Wetness	0.50		
8107+:						
Sawmill	Severe		Poorly suited		Severe	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Low strength	0.50	Wetness	1.00		
			Low strength	0.50		
8107A:						
Sawmill	Severe		Poorly suited		Severe	
	Flooding	1.00	Ponding	1.00	Low strength	1.00
	Low strength	0.50	Flooding	1.00		
			Wetness	1.00		
			Low strength	0.50		
8284A:						
Tice	Severe		Poorly suited		Severe	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
			Wetness	0.50		
8451A:						
Lawson	Severe		Poorly suited		Severe	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
			Wetness	0.50		
8452A:						
Riley	Severe		Poorly suited		Severe	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
			Wetness	0.50		

Table 11b.--Forestland Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
16A:						
Rushville	Slight		Slight		Poorly suited	
					Ponding	1.00
					Wetness	1.00
					Low strength	0.50
17A:						
Keomah	Slight		Slight		Moderately suited	
					Wetness	0.50
					Low strength	0.50
27D2:						
Miami	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
36A:						
Tama	Slight		Slight		Moderately suited	
					Low strength	0.50
36B:						
Tama	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
36C2:						
Tama	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
					Slope	0.50
36D2:						
Tama	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
43A:						
Ipava	Slight		Slight		Moderately suited	
					Low strength	0.50
					Wetness	0.50
45A:						
Denny	Slight		Slight		Poorly suited	
					Ponding	1.00
					Wetness	1.00
					Low strength	0.50
67A:						
Harpster	Slight		Slight		Poorly suited	
					Ponding	1.00
					Wetness	1.00
					Low strength	0.50

Table 11b.--Forestland Management--Continued

Map symbol and soil name	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
68A:						
Sable	Slight		Slight		Poorly suited	
					Ponding	1.00
					Wetness	1.00
					Low strength	0.50
86B:						
Osco	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
86C2:						
Osco	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
					Slope	0.50
134C2:						
Camden	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
					Slope	0.50
134C3:						
Camden	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
					Slope	0.50
138A:						
Shiloh	Slight		Slight		Poorly suited	
					Ponding	1.00
					Wetness	1.00
					Low strength	0.50
148B:						
Proctor	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
148C2:						
Proctor	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
					Slope	0.50
148D2:						
Proctor	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
149A:						
Brenton	Slight		Slight		Moderately suited	
					Low strength	0.50
					Wetness	0.50
152A:						
Drummer	Slight		Slight		Poorly suited	
					Ponding	1.00
					Wetness	1.00
					Low strength	0.50
159B:						
Pillot	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50

Table 11b.--Forestland Management--Continued

Map symbol and soil name	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
159C2:						
Pillot	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
					Slope	0.50
171B:						
Catlin	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
171C2:						
Catlin	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
					Slope	0.50
171D2:						
Catlin	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
191A:						
Knight	Slight		Slight		Poorly suited	
					Ponding	1.00
					Wetness	1.00
					Low strength	0.50
198A:						
Elburn	Slight		Slight		Moderately suited	
					Low strength	0.50
					Wetness	0.50
199A:						
Plano	Slight		Slight		Moderately suited	
					Low strength	0.50
199B:						
Plano	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
199C2:						
Plano	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
					Slope	0.50
206A:						
Thorp	Slight		Slight		Poorly suited	
					Ponding	1.00
					Wetness	1.00
					Low strength	0.50
212C2:						
Thebes	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
					Slope	0.50
233B:						
Birkbeck	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50

Table 11b.--Forestland Management--Continued

Map symbol and soil name	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
233C2:						
Birkbeck	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
					Slope	0.50
243A:						
St. Charles	Slight		Slight		Moderately suited	
					Low strength	0.50
243B:						
St. Charles	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
243C2:						
St. Charles	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
					Slope	0.50
244A:						
Hartsburg	Slight		Slight		Poorly suited	
					Ponding	1.00
					Wetness	1.00
					Low strength	0.50
257A:						
Clarksdale	Slight		Slight		Moderately suited	
					Wetness	0.50
					Low strength	0.50
272A:						
Edgington	Slight		Slight		Poorly suited	
					Ponding	1.00
					Wetness	1.00
					Low strength	0.50
279A:						
Rozetta	Slight		Slight		Moderately suited	
					Low strength	0.50
279B:						
Rozetta	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
279B2:						
Rozetta	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
279C2:						
Rozetta	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
					Slope	0.50
279C3:						
Rozetta	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
					Slope	0.50
279D2:						
Rozetta	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50

Table 11b.--Forestland Management--Continued

Map symbol and soil name	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
280C2:						
Fayette	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
					Slope	0.50
280D2:						
Fayette	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
374A:						
Proctor, sandy substratum	Slight		Slight		Moderately suited	
					Sandiness	0.50
					Low strength	0.50
533:						
Urban land	Not rated		Not rated		Not rated	
567C2:						
Elkhart	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
					Slope	0.50
618F:						
Senachwine	Severe		Severe		Poorly suited	
	Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
622C2:						
Wyanet	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
					Slope	0.50
622D2:						
Wyanet	Slight		Severe		Poorly suited	
			Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
663A:						
Clare	Slight		Slight		Moderately suited	
					Low strength	0.50
683A:						
Lawndale	Slight		Slight		Moderately suited	
					Low strength	0.50
					Wetness	0.50
684A:						
Broadwell	Slight		Slight		Moderately suited	
					Low strength	0.50
684B:						
Broadwell	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
684C2:						
Broadwell	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
					Slope	0.50

Table 11b.--Forestland Management--Continued

Map symbol and soil name	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
685B:						
Middletown	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
685C2:						
Middletown	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
					Slope	0.50
685D2:						
Middletown	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
705A:						
Buckhart	Slight		Slight		Moderately suited	
					Low strength	0.50
705B:						
Buckhart	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
712A:						
Spaulding	Slight		Slight		Poorly suited	
					Ponding	1.00
					Wetness	1.00
					Low strength	0.50
726A:						
Elburn, sandy substratum	Slight		Slight		Moderately suited	
					Sandiness	0.50
					Low strength	0.50
					Wetness	0.50
733C2:						
Birkbeck	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
					Slope	0.50
Senachwine	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
					Slope	0.50
733C3:						
Birkbeck	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
					Slope	0.50
Senachwine	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
					Slope	0.50
736D2:						
Senachwine	Slight		Severe		Poorly suited	
			Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
Russell	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50

Table 11b.--Forestland Management--Continued

Map symbol and soil name	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
737A:						
Tama, very deep to sand	Slight		Slight		Moderately suited	
					Low strength	0.50
737B:						
Tama, very deep to sand	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
737C2:						
Tama, very deep to sand	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
					Slope	0.50
748A:						
Plano, sandy substratum	Slight		Slight		Moderately suited	
					Sandiness	0.50
					Low strength	0.50
748B:						
Plano, sandy substratum	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Sandiness	0.50
					Low strength	0.50
748C2:						
Plano, sandy substratum	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Sandiness	0.50
					Low strength	0.50
					Slope	0.50
749B:						
Buckhart, till substratum	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
802B:						
Orthents, loamy	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
802E:						
Orthents, loamy	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
827A:						
Broadwell	Slight		Slight		Moderately suited	
					Low strength	0.50
Onarga	Slight		Slight		Well suited	
827B:						
Broadwell	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
Onarga	Slight		Slight		Well suited	

Table 11b.--Forestland Management--Continued

Map symbol and soil name	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
827B2:						
Broadwell	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
Onarga	Slight		Slight		Well suited	
828D2:						
Broadwell	Moderate		Severe		Moderately suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	0.50
					Low strength	0.50
Sparta	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Slope	0.50
830:						
Landfills	Not rated		Not rated		Not rated	
861B2:						
Princeton	Slight		Slight		Moderately suited	
					Sandiness	0.50
Bloomfield	Slight		Slight		Moderately suited	
					Sandiness	0.50
861D2:						
Princeton	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Slope	0.50
					Sandiness	0.50
Bloomfield	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Slope	0.50
					Sandiness	0.50
861F:						
Princeton	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Sandiness	0.50
Bloomfield	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Sandiness	0.50
864:						
Pits, quarries	Not rated		Not rated		Not rated	
865:						
Pits, gravel	Not rated		Not rated		Not rated	
871B:						
Lenzburg	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
871D:						
Lenzburg	Slight		Severe		Poorly suited	
			Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50

Table 11b.--Forestland Management--Continued

Map symbol and soil name	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
898F2:						
Hickory	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
Sylvan	Severe		Severe		Poorly suited	
	Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
965C2:						
Tallula	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
					Slope	0.50
Bold	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
					Slope	0.50
965D2:						
Tallula	Slight		Severe		Poorly suited	
			Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
Bold	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
3073A:						
Ross	Slight		Slight		Poorly suited	
					Flooding	1.00
					Low strength	0.50
3074A:						
Radford	Slight		Slight		Poorly suited	
					Flooding	1.00
					Low strength	0.50
					Wetness	0.50
3077A:						
Huntsville	Slight		Slight		Poorly suited	
					Flooding	1.00
					Low strength	0.50
3107+:						
Sawmill	Slight		Slight		Poorly suited	
					Flooding	1.00
					Wetness	1.00
					Low strength	0.50
3107A:						
Sawmill	Slight		Slight		Poorly suited	
					Ponding	1.00
					Flooding	1.00
					Wetness	1.00
					Low strength	0.50

Table 11b.--Forestland Management--Continued

Map symbol and soil name	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3107S:						
Sawmill, sandy substratum	Slight		Slight		Poorly suited	
					Ponding	1.00
					Flooding	1.00
					Wetness	1.00
					Low strength	0.50
3284A:						
Tice	Slight		Slight		Poorly suited	
					Flooding	1.00
					Low strength	0.50
					Wetness	0.50
3284S:						
Tice, sandy substratum	Slight		Slight		Poorly suited	
					Flooding	1.00
					Low strength	0.50
					Wetness	0.50
3304A:						
Landes	Slight		Slight		Poorly suited	
					Flooding	1.00
3405A:						
Zook	Slight		Slight		Poorly suited	
					Ponding	1.00
					Flooding	1.00
					Wetness	1.00
					Low strength	0.50
3408A:						
Aquents, loamy	Slight		Slight		Poorly suited	
					Ponding	1.00
					Flooding	1.00
					Wetness	1.00
					Low strength	0.50
3451A:						
Lawson	Slight		Slight		Poorly suited	
					Flooding	1.00
					Low strength	0.50
					Wetness	0.50
7148A:						
Proctor	Slight		Slight		Moderately suited	
					Low strength	0.50
7191A:						
Knight	Slight		Slight		Poorly suited	
					Ponding	1.00
					Wetness	1.00
					Low strength	0.50
7198A:						
Elburn	Slight		Slight		Moderately suited	
					Low strength	0.50
					Wetness	0.50

Table 11b.--Forestland Management--Continued

Map symbol and soil name	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
7199A:						
Plano	Slight		Slight		Moderately suited	
					Low strength	0.50
7304A:						
Landes	Slight		Slight		Well suited	
8074A:						
Radford	Slight		Slight		Poorly suited	
					Flooding	1.00
					Low strength	0.50
					Wetness	0.50
8107+:						
Sawmill	Slight		Slight		Poorly suited	
					Flooding	1.00
					Wetness	1.00
					Low strength	0.50
8107A:						
Sawmill	Slight		Slight		Poorly suited	
					Ponding	1.00
					Flooding	1.00
					Wetness	1.00
					Low strength	0.50
8284A:						
Tice	Slight		Slight		Poorly suited	
					Flooding	1.00
					Low strength	0.50
					Wetness	0.50
8451A:						
Lawson	Slight		Slight		Poorly suited	
					Flooding	1.00
					Low strength	0.50
					Wetness	0.50
8452A:						
Riley	Slight		Slight		Poorly suited	
					Flooding	1.00
					Low strength	0.50
					Wetness	0.50

Table 11c.--Forestland Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
16A:						
Rushville	Well suited		Well suited		Moderately suited Low strength	0.50
17A:						
Keomah	Well suited		Well suited		Moderately suited Low strength	0.50
27D2:						
Miami	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
36A:						
Tama	Well suited		Well suited		Moderately suited Low strength	0.50
36B:						
Tama	Well suited		Well suited		Moderately suited Low strength	0.50
36C2:						
Tama	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Moderately suited Low strength	0.50
36D2:						
Tama	Moderately suited		Moderately suited		Moderately suited	
43A:						
Ipava	Well suited		Well suited		Moderately suited Low strength	0.50
45A:						
Denny	Well suited		Well suited		Moderately suited Low strength	0.50
67A:						
Harpster	Well suited		Well suited		Moderately suited Low strength	0.50
68A:						
Sable	Well suited		Well suited		Moderately suited Low strength	0.50
86B:						
Osco	Well suited		Well suited		Moderately suited Low strength	0.50
86C2:						
Osco	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Moderately suited Low strength	0.50

Table 11c.--Forestland Management--Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
134C2:						
Camden	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Moderately suited Low strength	0.50
134C3:						
Camden	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Moderately suited Low strength	0.50
138A:						
Shiloh	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
148B:						
Proctor	Well suited		Well suited		Moderately suited Low strength	0.50
148C2:						
Proctor	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Moderately suited Low strength	0.50
148D2:						
Proctor	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Moderately suited Low strength	0.50
149A:						
Brenton	Well suited		Well suited		Moderately suited Low strength	0.50
152A:						
Drummer	Well suited		Well suited		Moderately suited Low strength	0.50
159B:						
Pillot	Well suited		Well suited		Moderately suited Low strength	0.50
159C2:						
Pillot	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Moderately suited Low strength	0.50
171B:						
Catlin	Well suited		Well suited		Moderately suited Low strength	0.50
171C2:						
Catlin	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Moderately suited Low strength	0.50

Table 11c.--Forestland Management--Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
171D2:						
Catlin	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Moderately suited Low strength	0.50
191A:						
Knight	Well suited		Well suited		Moderately suited Low strength	0.50
198A:						
Elburn	Well suited		Well suited		Moderately suited Low strength	0.50
199A:						
Plano	Well suited		Well suited		Moderately suited Low strength	0.50
199B:						
Plano	Well suited		Well suited		Moderately suited Low strength	0.50
199C2:						
Plano	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Moderately suited Low strength	0.50
206A:						
Thorp	Well suited		Well suited		Moderately suited Low strength	0.50
212C2:						
Thebes	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Moderately suited Low strength	0.50
233B:						
Birkbeck	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
233C2:						
Birkbeck	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Moderately suited Low strength	0.50
243A:						
St. Charles	Well suited		Well suited		Moderately suited Low strength	0.50
243B:						
St. Charles	Well suited		Well suited		Moderately suited Low strength	0.50

Table 11c.--Forestland Management--Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
243C2:						
St. Charles	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Moderately suited Low strength	0.50
244A:						
Hartsburg	Well suited		Well suited		Moderately suited Low strength	0.50
257A:						
Clarksdale	Well suited		Well suited		Moderately suited Low strength	0.50
272A:						
Edgington	Well suited		Well suited		Moderately suited Low strength	0.50
279A:						
Rozetta	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
279B:						
Rozetta	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
279B2:						
Rozetta	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
279C2:						
Rozetta	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Moderately suited Low strength	0.50
279C3:						
Rozetta	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Moderately suited Low strength	0.50
279D2:						
Rozetta	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Moderately suited Low strength	0.50
280C2:						
Fayette	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Moderately suited Low strength	0.50

Table 11c.--Forestland Management--Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
280D2:						
Fayette	Moderately suited		Moderately suited		Moderately suited	
	Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
			Stickiness; high plasticity index	0.50		
374A:						
Proctor, sandy substratum	Moderately suited		Moderately suited		Moderately suited	
	Sandiness	0.50	Sandiness	0.50	Low strength	0.50
					Sandiness	0.50
533:						
Urban land	Not rated		Not rated		Not rated	
567C2:						
Elkhart	Moderately suited		Moderately suited		Moderately suited	
	Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
			Stickiness; high plasticity index	0.50		
618F:						
Senachwine	Well suited		Unsuited		Moderately suited	
			Slope	1.00	Low strength	0.50
					Slope	0.50
622C2:						
Wyanet	Well suited		Moderately suited		Moderately suited	
			Slope	0.50	Low strength	0.50
622D2:						
Wyanet	Well suited		Moderately suited		Moderately suited	
			Slope	0.50	Low strength	0.50
663A:						
Clare	Well suited		Well suited		Moderately suited	
					Low strength	0.50
683A:						
Lawndale	Well suited		Well suited		Moderately suited	
					Low strength	0.50
684A:						
Broadwell	Well suited		Well suited		Moderately suited	
					Low strength	0.50
684B:						
Broadwell	Well suited		Well suited		Moderately suited	
					Low strength	0.50
684C2:						
Broadwell	Moderately suited		Moderately suited		Moderately suited	
	Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
			Stickiness; high plasticity index	0.50		
685B:						
Middletown	Moderately suited		Moderately suited		Moderately suited	
	Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50

Table 11c.--Forestland Management--Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
685C2:						
Middletown	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Moderately suited Low strength	0.50
685D2:						
Middletown	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Moderately suited Low strength	0.50
705A:						
Buckhart	Well suited		Well suited		Moderately suited Low strength	0.50
705B:						
Buckhart	Well suited		Well suited		Moderately suited Low strength	0.50
712A:						
Spaulding	Well suited		Well suited		Moderately suited Low strength	0.50
726A:						
Elburn, sandy substratum	Moderately suited Sandiness	0.50	Moderately suited Sandiness	0.50	Moderately suited Low strength Sandiness	0.50 0.50
733C2:						
Birkbeck	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Moderately suited Low strength	0.50
Senachwine	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
733C3:						
Birkbeck	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Moderately suited Low strength	0.50
Senachwine	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
736D2:						
Senachwine	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
Russell	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Moderately suited Low strength	0.50
737A:						
Tama, very deep to sand	Well suited		Well suited		Moderately suited Low strength	0.50

Table 11c.--Forestland Management--Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
737B:						
Tama, very deep to sand	Well suited		Well suited		Moderately suited	
					Low strength	0.50
737C2:						
Tama, very deep to sand	Well suited		Moderately suited		Moderately suited	
			Slope	0.50	Low strength	0.50
748A:						
Plano, sandy substratum	Moderately suited		Moderately suited		Moderately suited	
	Sandiness	0.50	Sandiness	0.50	Low strength	0.50
					Sandiness	0.50
748B:						
Plano, sandy substratum	Moderately suited		Moderately suited		Moderately suited	
	Sandiness	0.50	Sandiness	0.50	Low strength	0.50
					Sandiness	0.50
748C2:						
Plano, sandy substratum	Moderately suited		Moderately suited		Moderately suited	
	Sandiness	0.50	Slope	0.50	Low strength	0.50
	Stickiness; high plasticity index	0.50	Sandiness	0.50	Sandiness	0.50
			Stickiness; high plasticity index	0.50		
749B:						
Buckhart, till substratum	Well suited		Well suited		Moderately suited	
					Low strength	0.50
802B:						
Orthents, loamy	Well suited		Well suited		Moderately suited	
					Low strength	0.50
802E:						
Orthents, loamy	Well suited		Poorly suited		Moderately suited	
			Slope	0.75	Low strength	0.50
					Slope	0.50
827A:						
Broadwell	Well suited		Well suited		Moderately suited	
					Low strength	0.50
Onarga	Well suited		Well suited		Well suited	
827B:						
Broadwell	Well suited		Well suited		Moderately suited	
					Low strength	0.50
Onarga	Well suited		Well suited		Well suited	

Table 11c.--Forestland Management--Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
827B2:						
Broadwell	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
Onarga	Well suited		Well suited		Well suited	
828D2:						
Broadwell	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Moderately suited Low strength	0.50
Sparta	Well suited		Moderately suited Slope	0.50	Well suited	
830:						
Landfills	Not rated		Not rated		Not rated	
861B2:						
Princeton	Moderately suited Sandiness	0.50	Moderately suited Sandiness	0.50	Moderately suited Sandiness	0.50
Bloomfield	Moderately suited Sandiness	0.50	Moderately suited Sandiness	0.50	Moderately suited Sandiness	0.50
861D2:						
Princeton	Moderately suited Sandiness	0.50	Moderately suited Slope Sandiness	0.50 0.50	Moderately suited Sandiness	0.50
Bloomfield	Moderately suited Sandiness	0.50	Moderately suited Slope Sandiness	0.50 0.50	Moderately suited Sandiness	0.50
861F:						
Princeton	Moderately suited Sandiness	0.50	Poorly suited Slope Sandiness	0.75 0.50	Moderately suited Sandiness Slope	0.50 0.50
Bloomfield	Moderately suited Sandiness	0.50	Poorly suited Slope Sandiness	0.75 0.50	Moderately suited Sandiness Slope	0.50 0.50
864:						
Pits, quarries	Not rated		Not rated		Not rated	
865:						
Pits, gravel	Not rated		Not rated		Not rated	
871B:						
Lenzburg	Well suited		Well suited		Moderately suited Low strength	0.50
871D:						
Lenzburg	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index	0.50 0.50	Moderately suited Low strength	0.50

Table 11c.--Forestland Management--Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
898F2:						
Hickory	Moderately suited Stickiness; high plasticity index	0.50	Unsuited Slope Stickiness; high plasticity index	1.00 0.50	Moderately suited Low strength Slope	0.50 0.50
Sylvan	Moderately suited Stickiness; high plasticity index	0.50	Unsuited Slope Stickiness; high plasticity index	1.00 0.50	Moderately suited Low strength Slope	0.50 0.50
965C2:						
Tallula	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
Bold	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
965D2:						
Tallula	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
Bold	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
3073A:						
Ross	Well suited		Well suited		Moderately suited Low strength	0.50
3074A:						
Radford	Well suited		Well suited		Moderately suited Low strength	0.50
3077A:						
Huntsville	Well suited		Well suited		Moderately suited Low strength	0.50
3107+:						
Sawmill	Well suited		Well suited		Moderately suited Low strength	0.50
3107A:						
Sawmill	Well suited		Well suited		Moderately suited Low strength	0.50
3107S:						
Sawmill, sandy substratum	Well suited		Well suited		Moderately suited Low strength	0.50
3284A:						
Tice	Well suited		Well suited		Moderately suited Low strength	0.50
3284S:						
Tice, sandy substratum	Well suited		Well suited		Moderately suited Low strength	0.50

Table 11c.--Forestland Management--Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3304A:						
Landes	Well suited		Well suited		Well suited	
3405A:						
Zook	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50
3408A:						
Aquents, loamy	Poorly suited Wetness	0.75	Poorly suited Wetness	0.75	Poorly suited Wetness Low strength	1.00 0.50
3451A:						
Lawson	Well suited		Well suited		Moderately suited Low strength	0.50
7148A:						
Proctor	Well suited		Well suited		Moderately suited Low strength	0.50
7191A:						
Knight	Well suited		Well suited		Moderately suited Low strength	0.50
7198A:						
Elburn	Well suited		Well suited		Moderately suited Low strength	0.50
7199A:						
Plano	Well suited		Well suited		Moderately suited Low strength	0.50
7304A:						
Landes	Well suited		Well suited		Well suited	
8074A:						
Radford	Well suited		Well suited		Moderately suited Low strength	0.50
8107+:						
Sawmill	Well suited		Well suited		Moderately suited Low strength	0.50
8107A:						
Sawmill	Well suited		Well suited		Moderately suited Low strength	0.50
8284A:						
Tice	Well suited		Well suited		Moderately suited Low strength	0.50
8451A:						
Lawson	Well suited		Well suited		Moderately suited Low strength	0.50

Table 11c.--Forestland Management--Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8452A: Riley	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Low strength	0.50

Table 11d.--Forestland Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
	Rating class and limiting features	Value	Rating class and limiting features	Value
16A:				
Rushville	Well suited		Well suited	
17A:				
Keomah	Well suited		Well suited	
27D2:				
Miami	Well suited		Well suited	
36A:				
Tama	Well suited		Well suited	
36B:				
Tama	Well suited		Well suited	
36C2:				
Tama	Well suited		Well suited	
36D2:				
Tama	Well suited		Well suited	
43A:				
Ipava	Well suited		Well suited	
45A:				
Denny	Well suited		Well suited	
67A:				
Harpster	Well suited		Well suited	
68A:				
Sable	Well suited		Well suited	
86B:				
Osco	Well suited		Well suited	
86C2:				
Osco	Well suited		Well suited	
134C2:				
Camden	Well suited		Well suited	
134C3:				
Camden	Well suited		Well suited	
138A:				
Shiloh	Well suited		Well suited	
148B:				
Proctor	Well suited		Well suited	
148C2:				
Proctor	Well suited		Well suited	

Table 11d.--Forestland Management--Continued

Map symbol and soil name	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
	Rating class and limiting features	Value	Rating class and limiting features	Value
148D2:				
Proctor	Well suited		Well suited	
149A:				
Brenton	Well suited		Well suited	
152A:				
Drummer	Well suited		Well suited	
159B:				
Pillot	Well suited		Well suited	
159C2:				
Pillot	Well suited		Well suited	
171B:				
Catlin	Well suited		Well suited	
171C2:				
Catlin	Well suited		Well suited	
171D2:				
Catlin	Well suited		Well suited	
191A:				
Knight	Well suited		Well suited	
198A:				
Elburn	Well suited		Well suited	
199A:				
Plano	Well suited		Well suited	
199B:				
Plano	Well suited		Well suited	
199C2:				
Plano	Well suited		Well suited	
206A:				
Thorp	Well suited		Well suited	
212C2:				
Thebes	Well suited		Well suited	
233B:				
Birkbeck	Well suited		Well suited	
233C2:				
Birkbeck	Well suited		Well suited	
243A:				
St. Charles	Well suited		Well suited	
243B:				
St. Charles	Well suited		Well suited	
243C2:				
St. Charles	Well suited		Well suited	

Table 11d.--Forestland Management--Continued

Map symbol and soil name	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
	Rating class and limiting features	Value	Rating class and limiting features	Value
244A:				
Hartsburg	Well suited		Well suited	
257A:				
Clarksdale	Well suited		Well suited	
272A:				
Edgington	Well suited		Well suited	
279A:				
Rozetta	Well suited		Well suited	
279B:				
Rozetta	Well suited		Well suited	
279B2:				
Rozetta	Well suited		Well suited	
279C2:				
Rozetta	Well suited		Well suited	
279C3:				
Rozetta	Well suited		Well suited	
279D2:				
Rozetta	Well suited		Well suited	
280C2:				
Fayette	Well suited		Well suited	
280D2:				
Fayette	Well suited		Well suited	
374A:				
Proctor, sandy substratum	Well suited		Well suited	
533:				
Urban land	Not rated		Not rated	
567C2:				
Elkhart	Well suited		Well suited	
618F:				
Senachwine	Poorly suited Slope	0.50	Poorly suited Slope	0.50
622C2:				
Wyanet	Well suited		Well suited	
622D2:				
Wyanet	Well suited		Well suited	
663A:				
Clare	Well suited		Well suited	
683A:				
Lawndale	Well suited		Well suited	
684A:				
Broadwell	Well suited		Well suited	

Table 11d.--Forestland Management--Continued

Map symbol and soil name	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
	Rating class and limiting features	Value	Rating class and limiting features	Value
684B:				
Broadwell	Well suited		Well suited	
684C2:				
Broadwell	Well suited		Well suited	
685B:				
Middletown	Well suited		Well suited	
685C2:				
Middletown	Well suited		Well suited	
685D2:				
Middletown	Well suited		Well suited	
705A:				
Buckhart	Well suited		Well suited	
705B:				
Buckhart	Well suited		Well suited	
712A:				
Spaulding	Well suited		Well suited	
726A:				
Elburn, sandy substratum	Well suited		Well suited	
733C2:				
Birkbeck	Well suited		Well suited	
Senachwine	Well suited		Well suited	
733C3:				
Birkbeck	Well suited		Well suited	
Senachwine	Well suited		Well suited	
736D2:				
Senachwine	Well suited		Well suited	
Russell	Well suited		Well suited	
737A:				
Tama, very deep to sand	Well suited		Well suited	
737B:				
Tama, very deep to sand	Well suited		Well suited	
737C2:				
Tama, very deep to sand	Well suited		Well suited	
748A:				
Plano, sandy substratum	Well suited		Well suited	

Table 11d.--Forestland Management--Continued

Map symbol and soil name	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
	Rating class and limiting features	Value	Rating class and limiting features	Value
748B:				
Plano, sandy substratum	Well suited		Well suited	
748C2:				
Plano, sandy substratum	Well suited		Well suited	
749B:				
Buckhart, till substratum	Well suited		Well suited	
802B:				
Orthents, loamy	Well suited		Well suited	
802E:				
Orthents, loamy	Poorly suited Slope	0.50	Poorly suited Slope	0.50
827A:				
Broadwell	Well suited		Well suited	
Onarga	Well suited		Well suited	
827B:				
Broadwell	Well suited		Well suited	
Onarga	Well suited		Well suited	
827B2:				
Broadwell	Well suited		Well suited	
Onarga	Well suited		Well suited	
828D2:				
Broadwell	Well suited		Well suited	
Sparta	Well suited		Well suited	
830:				
Landfills	Not rated		Not rated	
861B2:				
Princeton	Well suited		Well suited	
Bloomfield	Well suited		Well suited	
861D2:				
Princeton	Well suited		Well suited	
Bloomfield	Well suited		Well suited	
861F:				
Princeton	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Bloomfield	Poorly suited Slope	0.50	Poorly suited Slope	0.50
864:				
Pits, quarries	Not rated		Not rated	

Table 11d.--Forestland Management--Continued

Map symbol and soil name	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
	Rating class and limiting features	Value	Rating class and limiting features	Value
865:				
Pits, gravel	Not rated		Not rated	
871B:				
Lenzburg	Well suited		Well suited	
871D:				
Lenzburg	Well suited		Well suited	
898F2:				
Hickory	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Sylvan	Poorly suited Slope	0.50	Poorly suited Slope	0.50
965C2:				
Tallula	Well suited		Well suited	
Bold	Well suited		Well suited	
965D2:				
Tallula	Well suited		Well suited	
Bold	Well suited		Well suited	
3073A:				
Ross	Well suited		Well suited	
3074A:				
Radford	Well suited		Well suited	
3077A:				
Huntsville	Well suited		Well suited	
3107+:				
Sawmill	Well suited		Well suited	
3107A:				
Sawmill	Well suited		Well suited	
3107S:				
Sawmill, sandy substratum	Well suited		Well suited	
3284A:				
Tice	Well suited		Well suited	
3284S:				
Tice, sandy substratum	Well suited		Well suited	
3304A:				
Landes	Well suited		Well suited	
3405A:				
Zook	Well suited		Well suited	
3408A:				
Aquents, loamy	Poorly suited Wetness	0.75	Unsuited Wetness	1.00

Table 11d.--Forestland Management--Continued

Map symbol and soil name	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
	Rating class and limiting features	Value	Rating class and limiting features	Value
3451A:				
Lawson	Well suited		Well suited	
7148A:				
Proctor	Well suited		Well suited	
7191A:				
Knight	Well suited		Well suited	
7198A:				
Elburn	Well suited		Well suited	
7199A:				
Plano	Well suited		Well suited	
7304A:				
Landes	Well suited		Well suited	
8074A:				
Radford	Well suited		Well suited	
8107+:				
Sawmill	Well suited		Well suited	
8107A:				
Sawmill	Well suited		Well suited	
8284A:				
Tice	Well suited		Well suited	
8451A:				
Lawson	Well suited		Well suited	
8452A:				
Riley	Well suited		Well suited	

Table 11e.--Forestland Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Potential for seedling mortality	
	Rating class and limiting features	Value
16A:		
Rushville	High	
	Wetness	1.00
17A:		
Keomah	High	
	Wetness	1.00
27D2:		
Miami	Low	
36A:		
Tama	Low	
36B:		
Tama	Low	
36C2:		
Tama	Low	
36D2:		
Tama	Low	
43A:		
Ipava	Low	
45A:		
Denny	High	
	Wetness	1.00
67A:		
Harpster	High	
	Wetness	1.00
	Carbonate content	0.50
	Soil reaction	0.50
68A:		
Sable	High	
	Wetness	1.00
86B:		
Osco	Low	
86C2:		
Osco	Low	
134C2:		
Camden	Low	
134C3:		
Camden	Low	

Table 11e.--Forestland Management--Continued

Map symbol and soil name	Potential for seedling mortality	
	Rating class and limiting features	Value
138A:		
Shiloh	High	
	Wetness	1.00
148B:		
Proctor	Low	
148C2:		
Proctor	Low	
148D2:		
Proctor	Low	
149A:		
Brenton	Low	
152A:		
Drummer	High	
	Wetness	1.00
159B:		
Pillot	Low	
159C2:		
Pillot	Low	
171B:		
Catlin	Low	
171C2:		
Catlin	Low	
171D2:		
Catlin	Low	
191A:		
Knight	High	
	Wetness	1.00
198A:		
Elburn	Low	
199A:		
Plano	Low	
199B:		
Plano	Low	
199C2:		
Plano	Low	
206A:		
Thorp	High	
	Wetness	1.00
212C2:		
Thebes	Low	
233B:		
Birkbeck	Low	

Table 11e.--Forestland Management--Continued

Map symbol and soil name	Potential for seedling mortality	
	Rating class and limiting features	Value
233C2:		
Birkbeck	Low	
243A:		
St. Charles	Low	
243B:		
St. Charles	Low	
243C2:		
St. Charles	Low	
244A:		
Hartsburg	High Wetness	1.00
257A:		
Clarksdale	High Wetness	1.00
272A:		
Edgington	High Wetness	1.00
279A:		
Rozetta	Low	
279B:		
Rozetta	Low	
279B2:		
Rozetta	Low	
279C2:		
Rozetta	Low	
279C3:		
Rozetta	Low	
279D2:		
Rozetta	Low	
280C2:		
Fayette	Low	
280D2:		
Fayette	Low	
374A:		
Proctor, sandy substratum	Low	
533:		
Urban land	Not rated	
567C2:		
Elkhart	Low	
618F:		
Senachwine	Low	

Table 11e.--Forestland Management--Continued

Map symbol and soil name	Potential for seedling mortality	
	Rating class and limiting features	Value
622C2:		
Wyanet	Low	
622D2:		
Wyanet	Low	
663A:		
Clare	Low	
683A:		
Lawndale	Low	
684A:		
Broadwell	Low	
684B:		
Broadwell	Low	
684C2:		
Broadwell	Low	
685B:		
Middletown	Low	
685C2:		
Middletown	Low	
685D2:		
Middletown	Low	
705A:		
Buckhart	Low	
705B:		
Buckhart	Low	
712A:		
Spaulding	High	
	Wetness	1.00
	Carbonate content	0.50
	Soil reaction	0.50
726A:		
Elburn, sandy substratum	Low	
733C2:		
Birkbeck	Low	
Senachwine	Low	
733C3:		
Birkbeck	Low	
Senachwine	Low	
736D2:		
Senachwine	Low	
Russell	Low	

Table 11e.--Forestland Management--Continued

Map symbol and soil name	Potential for seedling mortality	
	Rating class and limiting features	Value
737A: Tama, very deep to sand	Low	
737B: Tama, very deep to sand	Low	
737C2: Tama, very deep to sand	Low	
748A: Plano, sandy substratum	Low	
748B: Plano, sandy substratum	Low	
748C2: Plano, sandy substratum	Low	
749B: Buckhart, till substratum	Low	
802B: Orthents, loamy	Low	
802E: Orthents, loamy	Low	
827A: Broadwell	Low	
Onarga	Low	
827B: Broadwell	Low	
Onarga	Low	
827B2: Broadwell	Low	
Onarga	Low	
828D2: Broadwell	Low	
Sparta	Low	
830: Landfills	Not rated	
861B2: Princeton	Low	
Bloomfield	Low	

Table 11e.--Forestland Management--Continued

Map symbol and soil name	Potential for seedling mortality	
	Rating class and limiting features	Value
861D2:		
Princeton	Low	
Bloomfield	Low	
861F:		
Princeton	Low	
Bloomfield	Low	
864:		
Pits, quarries	Not rated	
865:		
Pits, gravel	Not rated	
871B:		
Lenzburg	Low	
871D:		
Lenzburg	Low	
898F2:		
Hickory	Low	
Sylvan	Low	
965C2:		
Tallula	Low	
Bold	Moderate	
	Carbonate content	0.50
	Soil reaction	0.50
965D2:		
Tallula	Low	
Bold	Moderate	
	Carbonate content	0.50
	Soil reaction	0.50
3073A:		
Ross	Low	
3074A:		
Radford	Low	
3077A:		
Huntsville	Low	
3107+:		
Sawmill	High	
	Wetness	1.00
3107A:		
Sawmill	High	
	Wetness	1.00
3107S:		
Sawmill, sandy substratum	High	
	Wetness	1.00

Table 11e.--Forestland Management--Continued

Map symbol and soil name	Potential for seedling mortality	
	Rating class and limiting features	Value
3284A: Tice	Low	
3284S: Tice, sandy substratum	Low	
3304A: Landes	Low	
3405A: Zook	High Wetness	1.00
3408A: Aquents, loamy	High Wetness	1.00
3451A: Lawson	Low	
7148A: Proctor	Low	
7191A: Knight	High Wetness	1.00
7198A: Elburn	Low	
7199A: Plano	Low	
7304A: Landes	Low	
8074A: Radford	Low	
8107+: Sawmill	High Wetness	1.00
8107A: Sawmill	High Wetness	1.00
8284A: Tice	Low	
8451A: Lawson	Low	
8452A: Riley	Low	

Table 12.--Forestland Productivity

(Only the soils suitable for production of commercial trees are listed)

Map symbol and soil name	Potential productivity			Suggested trees to plant
	Common trees	Site index	Volume of wood fiber	
			cu ft/acre	
16A:				
Rushville	---	---	---	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
17A:				
Keomah	Northern red oak	70	57	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
	White oak	65	43	
27D2:				
Miami	White oak	90	72	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Tuliptree	98	100	
45A:				
Denny	---	---	---	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
134C2:				
Camden	Northern red oak	85	72	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	White oak	85	72	
	Green ash	76	72	
	Tuliptree	95	100	
134C3:				
Camden	Northern red oak	85	72	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	White oak	85	72	
	Green ash	76	72	
	Tuliptree	95	100	
212C2:				
Thebes	Black walnut	---	---	Black oak, common hackberry, eastern white pine.
	Northern red oak	---	---	
	Tuliptree	---	---	
	White oak	80	57	
233B:				
Birkbeck	White oak	86	72	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Green ash	---	---	
	Northern red oak	---	---	
233C2:				
Birkbeck	White oak	86	72	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Green ash	---	---	
	Northern red oak	---	---	

Table 12.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Suggested trees to plant
	Common trees	Site index	Volume of wood fiber	
			cu ft/acre	
243A:				
St. Charles	Green ash	---	---	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Northern red oak	85	72	
	White oak	85	72	
	Tuliptree	95	100	
243B:				
St. Charles	Green ash	---	---	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Northern red oak	85	72	
	White oak	85	72	
	Tuliptree	95	100	
243C2:				
St. Charles	Green ash	---	---	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Northern red oak	85	72	
	White oak	85	72	
	Tuliptree	95	100	
257A:				
Clarksdale	White oak	80	57	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
	Northern red oak	80	57	
279A:				
Rozetta	Black walnut	---	---	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Northern red oak	80	57	
	Tuliptree	90	86	
	White oak	80	57	
279B:				
Rozetta	White oak	80	57	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Northern red oak	80	57	
	Tuliptree	90	86	
	Black walnut	---	---	
279B2:				
Rozetta	Black walnut	---	---	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Northern red oak	80	57	
	Tuliptree	90	86	
	White oak	80	57	
279C2:				
Rozetta	Northern red oak	80	57	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	White oak	80	57	
	Black walnut	---	---	
	Tuliptree	90	86	
279C3:				
Rozetta	Black walnut	---	---	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Northern red oak	80	57	
	Tuliptree	90	86	
	White oak	80	57	

Table 12.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Suggested trees to plant
	Common trees	Site index	Volume of wood fiber	
			cu ft/acre	
279D2:				
Rozetta	Black walnut	---	---	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Northern red oak	80	57	
	Tuliptree	90	86	
	White oak	80	57	
280C2:				
Fayette	Northern red oak	80	57	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	White oak	80	57	
	Black walnut	---	---	
	Tuliptree	90	86	
280D2:				
Fayette	Black walnut	---	---	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Northern red oak	80	57	
	Tuliptree	90	86	
	White oak	80	57	
618F:				
Senachwine	White oak	90	72	Bur oak, eastern white pine, pecan, pin oak, tuliptree.
	Tuliptree	98	100	
685B:				
Middletown	Black walnut	---	---	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Northern red oak	80	57	
	White oak	80	57	
685C2:				
Middletown	Black walnut	---	---	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Northern red oak	80	57	
	White oak	80	57	
685D2:				
Middletown	Black walnut	---	---	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Northern red oak	80	57	
	White oak	80	57	
733C2:				
Birkbeck	White oak	86	72	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Green ash	---	---	
	Northern red oak	---	---	
Senachwine	White oak	90	72	Black walnut, bur oak, eastern white pine, pecan, pin oak, tuliptree.
	Tuliptree	98	100	

Table 12.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Suggested trees to plant
	Common trees	Site index	Volume of wood fiber	
			cu ft/acre	
733C3:				
Birkbeck	White oak	86	72	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Green ash	---	---	
	Northern red oak	---	---	
Senachwine	White oak	90	72	Black walnut, bur oak, eastern white pine, pecan, pin oak, tuliptree.
	Tuliptree	98	100	
736D2:				
Senachwine	White oak	90	72	Black walnut, bur oak, eastern white pine, pecan, pin oak, tuliptree.
	Tuliptree	98	100	
Russell	White oak	90	72	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Northern red oak	90	72	
	Tuliptree	96	100	
802B:				
Orthents, loamy	---	---	---	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
802E:				
Orthents, loamy	---	---	---	Eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
861B2:				
Princeton	White oak	90	72	Black walnut, bur oak, eastern white pine, pecan, pin oak, tuliptree.
	Tuliptree	98	100	
Bloomfield	Black oak	70	57	Common hackberry, eastern redcedar, eastern white pine, red maple, red pine, shortleaf pine.
	Scarlet oak	---	---	
	Shagbark hickory	---	---	
	White oak	---	---	
861D2:				
Princeton	Tuliptree	98	100	Black walnut, bur oak, eastern white pine, pecan, pin oak, tuliptree.
	White oak	90	72	
Bloomfield	Black oak	70	57	Common hackberry, eastern redcedar, eastern white pine, red maple, red pine, shortleaf pine.
	Scarlet oak	---	---	
	Shagbark hickory	---	---	
	White oak	---	---	
861F:				
Princeton	White oak	90	72	Bur oak, eastern white pine, pecan, pin oak, tuliptree.
	Tuliptree	98	100	

Table 12.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Suggested trees to plant
	Common trees	Site index	Volume of wood fiber	
			cu ft/acre	
861F:				
Bloomfield	Black oak	70	57	Common hackberry, eastern redcedar, eastern white pine, red maple, red pine, shortleaf pine.
	Scarlet oak	---	---	
	Shagbark hickory	---	---	
	White oak	---	---	
871B:				
Lenzburg	Black walnut	73	---	Bur oak, chinkapin oak, eastern redcedar.
	Eastern cottonwood	---	---	
871D:				
Lenzburg	Black walnut	73	---	Bur oak, chinkapin oak, eastern redcedar.
	Eastern cottonwood	---	---	
898F2:				
Hickory	Bitternut hickory	---	---	Eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Black oak	---	---	
	Green ash	---	---	
	Northern red oak	85	72	
	Tuliptree	95	100	
	White oak	85	72	
Sylvan	Black walnut	---	---	Eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Northern red oak	80	57	
	Tuliptree	90	86	
	White oak	80	57	
3073A:				
Ross	Black cherry	---	---	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
	Black walnut	---	---	
	Northern red oak	86	72	
	Sugar maple	85	57	
	Tuliptree	96	100	
	White ash	---	---	
	White oak	---	---	
3074A:				
Radford	Pin oak	96	72	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
	Eastern cottonwood	---	---	
	White ash	---	---	
	Tuliptree	90	86	
3077A:				
Huntsville	American sycamore	---	---	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
	Tuliptree	98	100	
	Eastern cottonwood	110	157	
	Green ash	---	---	
3107+:				
Sawmill	American sycamore	---	---	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
	Pin oak	90	72	
	Eastern cottonwood	---	---	
3107A:				
Sawmill	Pin oak	90	72	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
	American sycamore	---	---	
	Eastern cottonwood	---	---	

Table 12.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Suggested trees to plant
	Common trees	Site index	Volume of wood fiber	
			cu ft/acre	
3107S:				
Sawmill, sandy substratum	Pin oak	90	72	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
	American sycamore	---	---	
	Eastern cottonwood	---	---	
3284A:				
Tice	Virginia pine	90	90	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
	Eastern cottonwood	---	---	
	Pin oak	96	78	
	White ash	---	---	
	Tuliptree	---	---	
3284S:				
Tice, sandy substratum	Virginia pine	90	90	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
	Eastern cottonwood	---	---	
	Pin oak	96	78	
	White ash	---	---	
	Tuliptree	---	---	
3304A:				
Landes	American sycamore	---	---	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
	Eastern cottonwood	105	143	
	Green ash	---	---	
	Tuliptree	95	100	
3405A:				
Zook	Pin oak	90	72	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
	American sycamore	---	---	
	Eastern cottonwood	---	---	
3408A:				
Aquents, loamy	Pin oak	76	57	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
3451A:				
Lawson	Silver maple	70	29	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
	White ash	---	---	
7304A:				
Landes	American sycamore	---	---	Common hackberry, eastern redcedar, eastern white pine, red maple, red pine, shortleaf pine.
	Eastern cottonwood	105	143	
	Green ash	---	---	
	Tuliptree	95	100	
8074A:				
Radford	---	---	---	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
8107+:				
Sawmill	American sycamore	---	---	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
	Pin oak	90	72	
	Eastern cottonwood	---	---	

Table 12.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Suggested trees to plant
	Common trees	Site index	Volume of wood fiber	
			cu ft/acre	
8107A:				
Sawmill	American sycamore	---	---	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
	Pin oak	90	72	
	Eastern cottonwood	---	---	
8284A:				
Tice	Pin oak	96	72	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
	Eastern cottonwood	---	---	
	Green ash	---	---	
	White ash	---	---	
8451A:				
Lawson	Silver maple	70	29	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
	White ash	---	---	
8452A:				
Riley	---	---	---	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.

Table 13a.--Recreational Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
16A:						
Rushville	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
17A:						
Keomah	Very limited		Somewhat limited		Very limited	
	Depth to saturated zone	1.00	Slow water movement	0.96	Depth to saturated zone	1.00
	Slow water movement	0.96	Depth to saturated zone	0.94	Slow water movement	0.96
27D2:						
Miami	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.96	Slope	0.96	Slope	1.00
	Depth to saturated zone	0.39	Slow water movement	0.21	Depth to saturated zone	0.39
	Slow water movement	0.21	Depth to saturated zone	0.19	Slow water movement	0.21
36A:						
Tama	Not limited		Not limited		Not limited	
36B:						
Tama	Not limited		Not limited		Somewhat limited	
					Slope	0.28
36C2:						
Tama	Not limited		Not limited		Very limited	
					Slope	1.00
36D2:						
Tama	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.96	Slope	0.96	Slope	1.00
43A:						
Ipava	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
	Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
45A:						
Denny	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96

Table 13a.--Recreational Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
67A:						
Harpster	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
68A:						
Sable	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
86B:						
Osco	Not limited		Not limited		Somewhat limited	
					Slope	0.28
86C2:						
Osco	Not limited		Not limited		Very limited	
					Slope	1.00
134C2:						
Camden	Not limited		Not limited		Very limited	
					Slope	1.00
134C3:						
Camden	Not limited		Not limited		Very limited	
					Slope	1.00
138A:						
Shiloh	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
148B:						
Proctor	Not limited		Not limited		Somewhat limited	
					Slope	0.28
148C2:						
Proctor	Not limited		Not limited		Very limited	
					Slope	1.00
148D2:						
Proctor	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.96	Slope	0.96	Slope	1.00
149A:						
Brenton	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
152A:						
Drummer	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00

Table 13a.--Recreational Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
159B:						
Pillot	Not limited		Not limited		Somewhat limited	
					Slope	0.28
159C2:						
Pillot	Not limited		Not limited		Very limited	
					Slope	1.00
171B:						
Catlin	Not limited		Not limited		Somewhat limited	
					Slope	0.12
171C2:						
Catlin	Not limited		Not limited		Very limited	
					Slope	1.00
171D2:						
Catlin	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.96	Slope	0.96	Slope	1.00
191A:						
Knight	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
198A:						
Elburn	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
199A:						
Plano	Not limited		Not limited		Not limited	
199B:						
Plano	Not limited		Not limited		Somewhat limited	
					Slope	0.28
199C2:						
Plano	Not limited		Not limited		Very limited	
					Slope	1.00
206A:						
Thorp	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
212C2:						
Thebes	Not limited		Not limited		Very limited	
					Slope	1.00
233B:						
Birkbeck	Not limited		Not limited		Somewhat limited	
					Slope	0.28

Table 13a.--Recreational Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
233C2:						
Birkbeck	Somewhat limited		Somewhat limited		Very limited	
	Depth to saturated zone	0.28	Depth to saturated zone	0.14	Slope	1.00
					Depth to saturated zone	0.28
243A:						
St. Charles	Not limited		Not limited		Not limited	
243B:						
St. Charles	Not limited		Not limited		Somewhat limited	
					Slope	0.28
243C2:						
St. Charles	Not limited		Not limited		Very limited	
					Slope	1.00
244A:						
Hartsburg	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
257A:						
Clarksdale	Very limited		Somewhat limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	0.94	Depth to saturated zone	1.00
	Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
272A:						
Edgington	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
279A:						
Rozetta	Not limited		Not limited		Not limited	
279B:						
Rozetta	Not limited		Not limited		Somewhat limited	
					Slope	0.28
279B2:						
Rozetta	Not limited		Not limited		Somewhat limited	
					Slope	0.12
279C2:						
Rozetta	Not limited		Not limited		Very limited	
					Slope	1.00
279C3:						
Rozetta	Not limited		Not limited		Very limited	
					Slope	1.00
279D2:						
Rozetta	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.96	Slope	0.96	Slope	1.00

Table 13a.--Recreational Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
280C2:						
Fayette	Not limited		Not limited		Very limited Slope	1.00
280D2:						
Fayette	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
374A:						
Proctor, sandy substratum	Not limited		Not limited		Not limited	
533:						
Urban land	Not rated		Not rated		Not rated	
567C2:						
Elkhart	Not limited		Not limited		Very limited Slope	1.00
618F:						
Senachwine	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
622C2:						
Wyanet	Somewhat limited Slow water movement	0.21	Somewhat limited Slow water movement	0.21	Very limited Slope Slow water movement	1.00 0.21
622D2:						
Wyanet	Somewhat limited Slope Slow water movement	0.96 0.21	Somewhat limited Slope Slow water movement	0.96 0.21	Very limited Slope Slow water movement	1.00 0.21
663A:						
Clare	Not limited		Not limited		Not limited	
683A:						
Lawndale	Somewhat limited Depth to saturated zone	0.98	Somewhat limited Depth to saturated zone	0.75	Somewhat limited Depth to saturated zone	0.98
684A:						
Broadwell	Not limited		Not limited		Not limited	
684B:						
Broadwell	Not limited		Not limited		Somewhat limited Slope	0.28
684C2:						
Broadwell	Not limited		Not limited		Very limited Slope	1.00
685B:						
Middletown	Not limited		Not limited		Somewhat limited Slope	0.28
685C2:						
Middletown	Not limited		Not limited		Very limited Slope	1.00

Table 13a.--Recreational Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
685D2:						
Middletown	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.96	Slope	0.96	Slope	1.00
705A:						
Buckhart	Not limited		Not limited		Not limited	
705B:						
Buckhart	Not limited		Not limited		Somewhat limited	
					Slope	0.28
712A:						
Spaulding	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
726A:						
Elburn, sandy substratum	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.95	Depth to saturated zone	0.68	Depth to saturated zone	0.95
733C2:						
Birkbeck	Somewhat limited		Somewhat limited		Very limited	
	Depth to saturated zone	0.28	Depth to saturated zone	0.14	Slope	1.00
					Depth to saturated zone	0.28
Senachwine	Somewhat limited		Somewhat limited		Very limited	
	Slow water movement	0.21	Slow water movement	0.21	Slope	1.00
					Slow water movement	0.21
733C3:						
Birkbeck	Somewhat limited		Somewhat limited		Very limited	
	Depth to saturated zone	0.28	Depth to saturated zone	0.14	Slope	1.00
					Depth to saturated zone	0.28
Senachwine	Somewhat limited		Somewhat limited		Very limited	
	Slow water movement	0.21	Slow water movement	0.21	Slope	1.00
					Slow water movement	0.21
736D2:						
Senachwine	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.96	Slope	0.96	Slope	1.00
	Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
Russell	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.96	Slope	0.96	Slope	1.00
737A:						
Tama, very deep to sand	Not limited		Not limited		Not limited	

Table 13a.--Recreational Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
737B:						
Tama, very deep to sand	Not limited		Not limited		Somewhat limited	
					Slope	0.28
737C2:						
Tama, very deep to sand	Not limited		Not limited		Very limited	
					Slope	1.00
748A:						
Plano, sandy substratum	Not limited		Not limited		Not limited	
748B:						
Plano, sandy substratum	Not limited		Not limited		Somewhat limited	
					Slope	0.12
748C2:						
Plano, sandy substratum	Not limited		Not limited		Very limited	
					Slope	1.00
749B:						
Buckhart, till substratum	Not limited		Not limited		Somewhat limited	
					Slope	0.28
802B:						
Orthents, loamy	Somewhat limited		Somewhat limited		Somewhat limited	
	Slow water movement	0.21	Slow water movement	0.21	Slope	0.50
					Slow water movement	0.21
802E:						
Orthents, loamy	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
827A:						
Broadwell	Not limited		Not limited		Not limited	
Onarga	Not limited		Not limited		Not limited	
827B:						
Broadwell	Not limited		Not limited		Somewhat limited	
					Slope	0.28
Onarga	Not limited		Not limited		Somewhat limited	
					Slope	0.28
827B2:						
Broadwell	Not limited		Not limited		Somewhat limited	
					Slope	0.28
Onarga	Not limited		Not limited		Somewhat limited	
					Slope	0.28

Table 13a.--Recreational Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
828D2:						
Broadwell	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.37	Slope	0.37	Slope	1.00
Sparta	Somewhat limited		Somewhat limited		Very limited	
	Too sandy	0.84	Too sandy	0.84	Slope	1.00
	Slope	0.37	Slope	0.37	Too sandy	0.84
830:						
Landfills	Not rated		Not rated		Not rated	
861B2:						
Princeton	Very limited		Very limited		Very limited	
	Too sandy	1.00	Too sandy	1.00	Too sandy	1.00
					Slope	0.50
Bloomfield	Very limited		Very limited		Very limited	
	Too sandy	1.00	Too sandy	1.00	Too sandy	1.00
					Slope	0.50
861D2:						
Princeton	Very limited		Very limited		Very limited	
	Too sandy	1.00	Too sandy	1.00	Slope	1.00
	Slope	0.37	Slope	0.37	Too sandy	1.00
Bloomfield	Very limited		Very limited		Very limited	
	Too sandy	1.00	Too sandy	1.00	Slope	1.00
	Slope	0.37	Slope	0.37	Too sandy	1.00
861F:						
Princeton	Very limited		Very limited		Very limited	
	Slope	1.00	Too sandy	1.00	Slope	1.00
	Too sandy	1.00	Slope	1.00	Too sandy	1.00
Bloomfield	Very limited		Very limited		Very limited	
	Slope	1.00	Too sandy	1.00	Slope	1.00
	Too sandy	1.00	Slope	1.00	Too sandy	1.00
864:						
Pits, quarries	Not rated		Not rated		Not rated	
865:						
Pits, gravel	Not rated		Not rated		Not rated	
871B:						
Lenzburg	Somewhat limited		Somewhat limited		Somewhat limited	
	Slow water movement	0.21	Slow water movement	0.21	Slope	0.50
					Slow water movement	0.21
					Gravel content	0.02
871D:						
Lenzburg	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.96	Slope	0.96	Slope	1.00
	Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
					Gravel content	0.02

Table 13a.--Recreational Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
898F2:						
Hickory	Very limited Slope	 1.00	Very limited Slope	 1.00	Very limited Slope	 1.00
Sylvan	Very limited Slope	 1.00	Very limited Slope	 1.00	Very limited Slope	 1.00
965C2:						
Tallula	Not limited		Not limited		Very limited Slope	 1.00
Bold	Not limited		Not limited		Very limited Slope	 1.00
965D2:						
Tallula	Somewhat limited Slope	 0.96	Somewhat limited Slope	 0.96	Very limited Slope	 1.00
Bold	Somewhat limited Slope	 0.96	Somewhat limited Slope	 0.96	Very limited Slope	 1.00
3073A:						
Ross	Very limited Flooding	 1.00	Somewhat limited Flooding	 0.40	Very limited Flooding	 1.00
3074A:						
Radford	Very limited Flooding Depth to saturated zone	 1.00 0.98	Somewhat limited Depth to saturated zone Flooding	 0.75 0.40	Very limited Flooding Depth to saturated zone	 1.00 0.98
3077A:						
Huntsville	Very limited Flooding	 1.00	Somewhat limited Flooding	 0.40	Very limited Flooding	 1.00
3107+:						
Sawmill	Very limited Depth to saturated zone Flooding	 1.00 1.00	Very limited Depth to saturated zone Flooding	 1.00 0.40	Very limited Depth to saturated zone Flooding	 1.00 1.00
3107A:						
Sawmill	Very limited Depth to saturated zone Flooding Ponding	 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Flooding	 1.00 1.00 0.40	Very limited Depth to saturated zone Flooding Ponding	 1.00 1.00 1.00
3107S:						
Sawmill, sandy substratum	Very limited Depth to saturated zone Flooding Ponding	 1.00 1.00 1.00	Very limited Depth to saturated zone Ponding Flooding	 1.00 1.00 0.40	Very limited Depth to saturated zone Flooding Ponding	 1.00 1.00 1.00

Table 13a.--Recreational Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3284A:						
Tice	Very limited		Somewhat limited		Very limited	
	Flooding	1.00	Depth to saturated zone	0.75	Flooding	1.00
	Depth to saturated zone	0.98	Flooding	0.40	Depth to saturated zone	0.98
3284S:						
Tice, sandy substratum	Very limited		Somewhat limited		Very limited	
	Flooding	1.00	Depth to saturated zone	0.75	Flooding	1.00
	Depth to saturated zone	0.98	Flooding	0.40	Depth to saturated zone	0.98
3304A:						
Landes	Very limited		Somewhat limited		Very limited	
	Flooding	1.00	Flooding	0.40	Flooding	1.00
3405A:						
Zook	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Ponding	1.00	Flooding	1.00
	Ponding	1.00	Slow water movement	0.96	Ponding	1.00
	Slow water movement	0.96	Flooding	0.40	Slow water movement	0.96
3408A:						
Aquents, loamy	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Ponding	1.00	Flooding	0.40	Ponding	1.00
3451A:						
Lawson	Very limited		Somewhat limited		Very limited	
	Flooding	1.00	Depth to saturated zone	0.75	Flooding	1.00
	Depth to saturated zone	0.98	Flooding	0.40	Depth to saturated zone	0.98
7148A:						
Proctor	Very limited		Not limited		Not limited	
	Flooding	1.00				
7191A:						
Knight	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Ponding	1.00	Ponding	1.00
	Ponding	1.00	Slow water movement	0.21	Slow water movement	0.21
	Slow water movement	0.21				
7198A:						
Elburn	Very limited		Somewhat limited		Somewhat limited	
	Flooding	1.00	Depth to saturated zone	0.75	Depth to saturated zone	0.98
	Depth to saturated zone	0.98				

Table 13a.--Recreational Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
7199A:						
Plano	Very limited		Not limited		Not limited	
	Flooding	1.00				
7304A:						
Landes	Very limited		Not limited		Not limited	
	Flooding	1.00				
8074A:						
Radford	Very limited		Somewhat limited		Somewhat limited	
	Flooding	1.00	Depth to saturated zone	0.48	Depth to saturated zone	0.81
	Depth to saturated zone	0.81			Flooding	0.60
8107+:						
Sawmill	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00			Flooding	0.60
8107A:						
Sawmill	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00			Flooding	0.60
8284A:						
Tice	Very limited		Somewhat limited		Somewhat limited	
	Flooding	1.00	Depth to saturated zone	0.75	Depth to saturated zone	0.98
	Depth to saturated zone	0.98			Flooding	0.60
8451A:						
Lawson	Very limited		Somewhat limited		Somewhat limited	
	Flooding	1.00	Depth to saturated zone	0.75	Depth to saturated zone	0.98
	Depth to saturated zone	0.98			Flooding	0.60
8452A:						
Riley	Very limited		Somewhat limited		Somewhat limited	
	Flooding	1.00	Depth to saturated zone	0.75	Depth to saturated zone	0.98
	Depth to saturated zone	0.98			Flooding	0.60

Table 13b.--Recreational Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Paths and trails		Off-road motorcycle trails		Golf fairways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
16A:						
Rushville	Very limited Depth to saturated zone Ponding	 1.00 1.00	Very limited Depth to saturated zone Ponding	 1.00 1.00	Very limited Depth to saturated zone Ponding	 1.00 1.00
17A:						
Keomah	Somewhat limited Depth to saturated zone	 0.86	Somewhat limited Depth to saturated zone	 0.86	Somewhat limited Depth to saturated zone	 0.94
27D2:						
Miami	Very limited Water erosion	 1.00	Very limited Water erosion	 1.00	Somewhat limited Slope Depth to saturated zone	 0.96 0.19
36A:						
Tama	Not limited		Not limited		Not limited	
36B:						
Tama	Not limited		Not limited		Not limited	
36C2:						
Tama	Not limited		Not limited		Not limited	
36D2:						
Tama	Very limited Water erosion	 1.00	Very limited Water erosion	 1.00	Somewhat limited Slope	 0.96
43A:						
Ipava	Somewhat limited Depth to saturated zone	 0.44	Somewhat limited Depth to saturated zone	 0.44	Somewhat limited Depth to saturated zone	 0.75
45A:						
Denny	Very limited Depth to saturated zone Ponding	 1.00 1.00	Very limited Depth to saturated zone Ponding	 1.00 1.00	Very limited Ponding Depth to saturated zone	 1.00 1.00
67A:						
Harpster	Very limited Depth to saturated zone Ponding	 1.00 1.00	Very limited Depth to saturated zone Ponding	 1.00 1.00	Very limited Ponding Depth to saturated zone	 1.00 1.00
68A:						
Sable	Very limited Depth to saturated zone Ponding	 1.00 1.00	Very limited Depth to saturated zone Ponding	 1.00 1.00	Very limited Ponding Depth to saturated zone	 1.00 1.00
86B:						
Osco	Not limited		Not limited		Not limited	

Table 13b.--Recreational Development--Continued

Map symbol and soil name	Paths and trails		Off-road motorcycle trails		Golf fairways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
86C2:						
Osco	Not limited		Not limited		Not limited	
134C2:						
Camden	Not limited		Not limited		Not limited	
134C3:						
Camden	Not limited		Not limited		Not limited	
138A:						
Shiloh	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
148B:						
Proctor	Not limited		Not limited		Not limited	
148C2:						
Proctor	Not limited		Not limited		Not limited	
148D2:						
Proctor	Very limited		Very limited		Somewhat limited	
	Water erosion	1.00	Water erosion	1.00	Slope	0.96
149A:						
Brenton	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
152A:						
Drummer	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
159B:						
Pillot	Not limited		Not limited		Not limited	
159C2:						
Pillot	Not limited		Not limited		Not limited	
171B:						
Catlin	Not limited		Not limited		Not limited	
171C2:						
Catlin	Not limited		Not limited		Not limited	
171D2:						
Catlin	Very limited		Very limited		Somewhat limited	
	Water erosion	1.00	Water erosion	1.00	Slope	0.96
191A:						
Knight	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00

Table 13b.--Recreational Development--Continued

Map symbol and soil name	Paths and trails		Off-road motorcycle trails		Golf fairways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
198A:						
Elburn	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
199A:						
Plano	Not limited		Not limited		Not limited	
199B:						
Plano	Not limited		Not limited		Not limited	
199C2:						
Plano	Not limited		Not limited		Not limited	
206A:						
Thorp	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
212C2:						
Thebes	Not limited		Not limited		Not limited	
233B:						
Birkbeck	Not limited		Not limited		Not limited	
233C2:						
Birkbeck	Not limited		Not limited		Somewhat limited Depth to saturated zone	0.14
243A:						
St. Charles	Not limited		Not limited		Not limited	
243B:						
St. Charles	Not limited		Not limited		Not limited	
243C2:						
St. Charles	Not limited		Not limited		Not limited	
244A:						
Hartsburg	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
257A:						
Clarksdale	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.94
272A:						
Edgington	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
279A:						
Rozetta	Not limited		Not limited		Not limited	

Table 13b.--Recreational Development--Continued

Map symbol and soil name	Paths and trails		Off-road motorcycle trails		Golf fairways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
279B:						
Rozetta	Not limited		Not limited		Not limited	
279B2:						
Rozetta	Not limited		Not limited		Not limited	
279C2:						
Rozetta	Not limited		Not limited		Not limited	
279C3:						
Rozetta	Not limited		Not limited		Not limited	
279D2:						
Rozetta	Very limited		Very limited		Somewhat limited	
	Water erosion	1.00	Water erosion	1.00	Slope	0.96
280C2:						
Fayette	Not limited		Not limited		Not limited	
280D2:						
Fayette	Very limited		Very limited		Somewhat limited	
	Water erosion	1.00	Water erosion	1.00	Slope	0.96
374A:						
Proctor, sandy substratum	Not limited		Not limited		Not limited	
533:						
Urban land	Not rated		Not rated		Not rated	
567C2:						
Elkhart	Not limited		Not limited		Not limited	
618F:						
Senachwine	Very limited		Very limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Slope	1.00
	Slope	1.00	Slope	0.04		
622C2:						
Wyanet	Not limited		Not limited		Not limited	
622D2:						
Wyanet	Not limited		Not limited		Somewhat limited	
					Slope	0.96
663A:						
Clare	Not limited		Not limited		Not limited	
683A:						
Lawndale	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
684A:						
Broadwell	Not limited		Not limited		Not limited	
684B:						
Broadwell	Not limited		Not limited		Not limited	

Table 13b.--Recreational Development--Continued

Map symbol and soil name	Paths and trails		Off-road motorcycle trails		Golf fairways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
684C2:						
Broadwell	Not limited		Not limited		Not limited	
685B:						
Middletown	Not limited		Not limited		Not limited	
685C2:						
Middletown	Not limited		Not limited		Not limited	
685D2:						
Middletown	Very limited		Very limited		Somewhat limited	
	Water erosion	1.00	Water erosion	1.00	Slope	0.96
705A:						
Buckhart	Not limited		Not limited		Not limited	
705B:						
Buckhart	Not limited		Not limited		Not limited	
712A:						
Spaulding	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
726A:						
Elburn, sandy substratum	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.32	Depth to saturated zone	0.32	Depth to saturated zone	0.68
733C2:						
Birkbeck	Not limited		Not limited		Somewhat limited	
					Depth to saturated zone	0.14
Senachwine	Not limited		Not limited		Not limited	
733C3:						
Birkbeck	Not limited		Not limited		Somewhat limited	
					Depth to saturated zone	0.14
Senachwine	Not limited		Not limited		Not limited	
736D2:						
Senachwine	Not limited		Not limited		Somewhat limited	
					Slope	0.96
Russell	Very limited		Very limited		Somewhat limited	
	Water erosion	1.00	Water erosion	1.00	Slope	0.96
737A:						
Tama, very deep to sand	Not limited		Not limited		Not limited	
737B:						
Tama, very deep to sand	Not limited		Not limited		Not limited	

Table 13b.--Recreational Development--Continued

Map symbol and soil name	Paths and trails		Off-road motorcycle trails		Golf fairways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
737C2:						
Tama, very deep to sand	Not limited		Not limited		Not limited	
748A:						
Plano, sandy substratum	Not limited		Not limited		Not limited	
748B:						
Plano, sandy substratum	Not limited		Not limited		Not limited	
748C2:						
Plano, sandy substratum	Not limited		Not limited		Not limited	
749B:						
Buckhart, till substratum	Not limited		Not limited		Not limited	
802B:						
Orthents, loamy	Not limited		Not limited		Not limited	
802E:						
Orthents, loamy	Very limited		Very limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Slope	1.00
	Slope	0.68				
827A:						
Broadwell	Not limited		Not limited		Not limited	
Onarga	Not limited		Not limited		Not limited	
827B:						
Broadwell	Not limited		Not limited		Not limited	
Onarga	Not limited		Not limited		Not limited	
827B2:						
Broadwell	Not limited		Not limited		Not limited	
Onarga	Not limited		Not limited		Not limited	
828D2:						
Broadwell	Very limited		Very limited		Somewhat limited	
	Water erosion	1.00	Water erosion	1.00	Slope	0.37
Sparta	Somewhat limited		Somewhat limited		Somewhat limited	
	Too sandy	0.84	Too sandy	0.84	Slope	0.37
					Droughty	0.24
830:						
Landfills	Not rated		Not rated		Not rated	
861B2:						
Princeton	Very limited		Very limited		Not limited	
	Too sandy	1.00	Too sandy	1.00		
Bloomfield	Very limited		Very limited		Somewhat limited	
	Too sandy	1.00	Too sandy	1.00	Droughty	0.01

Table 13b.--Recreational Development--Continued

Map symbol and soil name	Paths and trails		Off-road motorcycle trails		Golf fairways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
861D2:						
Princeton	Very limited		Very limited		Somewhat limited	
	Too sandy	1.00	Too sandy	1.00	Slope	0.37
Bloomfield	Very limited		Very limited		Somewhat limited	
	Too sandy	1.00	Too sandy	1.00	Slope	0.37
					Droughty	0.01
861F:						
Princeton	Very limited		Very limited		Very limited	
	Too sandy	1.00	Too sandy	1.00	Slope	1.00
	Slope	1.00				
Bloomfield	Very limited		Very limited		Very limited	
	Too sandy	1.00	Too sandy	1.00	Slope	1.00
	Slope	1.00			Droughty	0.01
864:						
Pits, quarries	Not rated		Not rated		Not rated	
865:						
Pits, gravel	Not rated		Not rated		Not rated	
871B:						
Lenzburg	Not limited		Not limited		Somewhat limited	
					Content of large stones	0.01
871D:						
Lenzburg	Not limited		Not limited		Somewhat limited	
					Slope	0.96
					Content of large stones	0.01
898F2:						
Hickory	Very limited		Somewhat limited		Very limited	
	Slope	1.00	Slope	0.02	Slope	1.00
Sylvan	Very limited		Very limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Slope	1.00
	Slope	1.00	Slope	0.02		
965C2:						
Tallula	Not limited		Not limited		Not limited	
Bold	Not limited		Not limited		Not limited	
965D2:						
Tallula	Not limited		Not limited		Somewhat limited	
					Slope	0.96
Bold	Very limited		Very limited		Somewhat limited	
	Water erosion	1.00	Water erosion	1.00	Slope	0.96
3073A:						
Ross	Somewhat limited		Somewhat limited		Very limited	
	Flooding	0.40	Flooding	0.40	Flooding	1.00

Table 13b.--Recreational Development--Continued

Map symbol and soil name	Paths and trails		Off-road motorcycle trails		Golf fairways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3074A:						
Radford	Somewhat limited		Somewhat limited		Very limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Flooding	1.00
	Flooding	0.40	Flooding	0.40	Depth to saturated zone	0.75
3077A:						
Huntsville	Somewhat limited		Somewhat limited		Very limited	
	Flooding	0.40	Flooding	0.40	Flooding	1.00
3107+:						
Sawmill	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00
3107A:						
Sawmill	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00	Ponding	1.00	Flooding	1.00
	Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00
3107S:						
Sawmill, sandy substratum	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00	Ponding	1.00	Flooding	1.00
	Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00
3284A:						
Tice	Somewhat limited		Somewhat limited		Very limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Flooding	1.00
	Flooding	0.40	Flooding	0.40	Depth to saturated zone	0.75
3284S:						
Tice, sandy substratum	Somewhat limited		Somewhat limited		Very limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Flooding	1.00
	Flooding	0.40	Flooding	0.40	Depth to saturated zone	0.75
3304A:						
Landes	Somewhat limited		Somewhat limited		Very limited	
	Flooding	0.40	Flooding	0.40	Flooding	1.00
3405A:						
Zook	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00	Ponding	1.00	Flooding	1.00
	Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00
3408A:						
Aquents, loamy	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00	Ponding	1.00	Flooding	1.00
	Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00

Table 13b.--Recreational Development--Continued

Map symbol and soil name	Paths and trails		Off-road motorcycle trails		Golf fairways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3451A:						
Lawson	Somewhat limited		Somewhat limited		Very limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Flooding	1.00
	Flooding	0.40	Flooding	0.40	Depth to saturated zone	0.75
7148A:						
Proctor	Not limited		Not limited		Not limited	
7191A:						
Knight	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
7198A:						
Elburn	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
7199A:						
Plano	Not limited		Not limited		Not limited	
7304A:						
Landes	Not limited		Not limited		Not limited	
8074A:						
Radford	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.11	Depth to saturated zone	0.11	Flooding	0.60
					Depth to saturated zone	0.48
8107+:						
Sawmill	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
					Flooding	0.60
8107A:						
Sawmill	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
					Flooding	0.60
8284A:						
Tice	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
					Flooding	0.60
8451A:						
Lawson	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
					Flooding	0.60

Table 13b.--Recreational Development--Continued

Map symbol and soil name	Paths and trails		Off-road motorcycle trails		Golf fairways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8452A:						
Riley	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone Flooding	0.75 0.60

Table 14.--Wildlife Habitat

(See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable)

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
16A: Rushville	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
17A: Keomah	Fair	Good	Fair	Good	Good	Fair	Fair	Fair	Good	Fair.
27D2: Miami	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
36A: Tama	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
36B: Tama	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
36C2: Tama	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
36D2: Tama	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
43A: Ipava	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
45A: Denny	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
67A: Harpster	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
68A: Sable	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
86B: Osco	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
86C2: Osco	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
134C2: Camden	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
134C3: Camden	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
138A: Shiloh	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.

Table 14.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
148B: Proctor	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
148C2: Proctor	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
148D2: Proctor	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
149A: Brenton	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
152A: Drummer	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
159B: Pillot	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
159C2: Pillot	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
171B: Catlin	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
171C2: Catlin	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
171D2: Catlin	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
191A: Knight	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
198A: Elburn	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
199A: Plano	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
199B: Plano	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
199C2: Plano	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
206A: Thorp	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
212C2: Thebes	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.

Table 14.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba-ceous plants	Hardwood trees	Conif-erous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
233B:										
Birkbeck	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
233C2:										
Birkbeck	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
243A:										
St. Charles	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
243B:										
St. Charles	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
243C2:										
St. Charles	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
244A:										
Hartsburg	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
257A:										
Clarksdale	Fair	Good	Fair	Good	Good	Fair	Fair	Fair	Good	Fair.
272A:										
Edgington	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
279A:										
Rozetta	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
279B:										
Rozetta	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
279B2:										
Rozetta	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
279C2:										
Rozetta	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
279C3:										
Rozetta	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
279D2:										
Rozetta	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
280C2:										
Fayette	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
280D2:										
Fayette	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.

Table 14.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
374A: Proctor, sandy substratum	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
533. Urban land										
567C2: Elkhart	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
618F: Senachwine	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
622C2: Wyanet	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
622D2: Wyanet	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
663A: Clare	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
683A: Lawndale	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
684A: Broadwell	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
684B: Broadwell	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
684C2: Broadwell	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
685B: Middletown	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
685C2: Middletown	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
685D2: Middletown	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
705A: Buckhart	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
705B: Buckhart	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.

Table 14.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba-ceous plants	Hardwood trees	Conif-erous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
712A:										
Spaulding	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
726A:										
Elburn, sandy substratum	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
733C2:										
Birkbeck	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Senachwine	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
733C3:										
Birkbeck	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Senachwine	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
736D2:										
Senachwine	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Russell	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
737A:										
Tama, very deep to sand	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
737B:										
Tama, very deep to sand	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
737C2:										
Tama, very deep to sand	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
748A:										
Plano, sandy substratum	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
748B:										
Plano, sandy substratum	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
748C2:										
Plano, sandy substratum	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.

Table 14.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba-ceous plants	Hardwood trees	Conif-erous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
749B: Buckhart, till substratum	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
802B: Orthents, loamy	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
802E: Orthents, loamy	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
827A: Broadwell	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Onarga	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
827B: Broadwell	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Onarga	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
827B2: Broadwell	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Onarga	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
828D2: Broadwell	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Sparta	Poor	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
830. Landfills										
861B2: Princeton	Poor	Fair	Good	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
Bloomfield	Poor	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
861D2: Princeton	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Bloomfield	Poor	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.

Table 14.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba-ceous plants	Hardwood trees	Conif-erous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
861F:										
Princeton	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Bloomfield	Very poor.	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
864. Pits, quarries										
865. Pits, gravel										
871B:										
Lenzburg	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
871D:										
Lenzburg	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
898F2:										
Hickory	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Sylvan	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
965C2:										
Tallula	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Bold	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
965D2:										
Tallula	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Bold	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
3073A:										
Ross	Poor	Fair	Fair	Good	Fair	Fair	Very poor.	Fair	Good	Poor.
3074A:										
Radford	Poor	Fair	Fair	Good	Fair	Good	Fair	Fair	Good	Fair.
3077A:										
Huntsville	Poor	Fair	Fair	Good	Fair	Fair	Very poor.	Fair	Good	Poor.
3107+:										
Sawmill	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
3107A:										
Sawmill	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.

Table 14.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba-ceous plants	Hardwood trees	Conif-erous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
3107S: Sawmill, sandy substratum	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
3284A: Tice	Poor	Fair	Fair	Good	Fair	Good	Fair	Fair	Good	Fair.
3284S: Tice, sandy substratum	Poor	Fair	Fair	Good	Fair	Good	Fair	Fair	Good	Fair.
3304A: Landes	Poor	Fair	Fair	Good	Fair	Fair	Very poor.	Fair	Good	Poor.
3405A: Zook	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
3408A: Aquents, loamy	Very poor.	Poor	Poor	Poor	Very poor.	Good	Good	Poor	Poor	Good.
3451A: Lawson	Poor	Fair	Fair	Good	Fair	Good	Fair	Fair	Good	Fair.
7148A: Proctor	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
7191A: Knight	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
7198A: Elburn	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
7199A: Plano	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
7304A: Landes	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
8074A: Radford	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
8107+: Sawmill	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
8107A: Sawmill	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
8284A: Tice	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
8451A: Lawson	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.

Table 14.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba-ceous plants	Hardwood trees	Conif-erous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
8452A: Riley	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.

Table 15a.--Building Site Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
16A:						
Rushville	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	1.00	Ponding	1.00	Shrink-swell	1.00
	Ponding	1.00			Ponding	1.00
17A:						
Keomah	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	1.00			Shrink-swell	1.00
27D2:						
Miami	Somewhat limited		Very limited		Very limited	
	Slope	0.96	Depth to saturated zone	1.00	Slope	1.00
	Shrink-swell	0.50	Slope	0.96	Shrink-swell	0.50
	Depth to saturated zone	0.39			Depth to saturated zone	0.39
36A:						
Tama	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
36B:						
Tama	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
36C2:						
Tama	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Slope	0.97
					Shrink-swell	0.50
36D2:						
Tama	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.96	Slope	0.96	Slope	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
43A:						
Ipava	Very limited		Very limited		Very limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
	Depth to saturated zone	0.98	Shrink-swell	0.50	Depth to saturated zone	0.98
45A:						
Denny	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00

Table 15a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
67A:						
Harpster	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
68A:						
Sable	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
86B:						
Osco	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
			Depth to saturated zone	0.15		
86C2:						
Osco	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Slope	0.97
			Depth to saturated zone	0.15	Shrink-swell	0.50
134C2:						
Camden	Somewhat limited		Not limited		Somewhat limited	
	Shrink-swell	0.50			Slope	0.97
					Shrink-swell	0.50
134C3:						
Camden	Somewhat limited		Not limited		Somewhat limited	
	Shrink-swell	0.50			Slope	0.97
					Shrink-swell	0.50
138A:						
Shiloh	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
148B:						
Proctor	Somewhat limited		Not limited		Somewhat limited	
	Shrink-swell	0.50			Shrink-swell	0.50
148C2:						
Proctor	Somewhat limited		Not limited		Somewhat limited	
	Shrink-swell	0.50			Slope	0.97
					Shrink-swell	0.50
148D2:						
Proctor	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.96	Slope	0.96	Slope	1.00
	Shrink-swell	0.50			Shrink-swell	0.50

Table 15a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
149A:						
Brenton	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
152A:						
Drummer	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
159B:						
Pillot	Somewhat limited		Not limited		Somewhat limited	
	Shrink-swell	0.50			Shrink-swell	0.50
159C2:						
Pillot	Somewhat limited		Not limited		Somewhat limited	
	Shrink-swell	0.50			Slope	0.97
					Shrink-swell	0.50
171B:						
Catlin	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	0.99	Shrink-swell	0.50
			Shrink-swell	0.50		
171C2:						
Catlin	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	0.99	Slope	0.97
			Shrink-swell	0.50	Shrink-swell	0.50
171D2:						
Catlin	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.96	Depth to saturated zone	0.99	Slope	1.00
	Shrink-swell	0.50	Slope	0.96	Shrink-swell	0.50
			Shrink-swell	0.50		
191A:						
Knight	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
198A:						
Elburn	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
199A:						
Plano	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
199B:						
Plano	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.27	Shrink-swell	0.27	Shrink-swell	0.27

Table 15a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
199C2:						
Plano	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Slope	0.97
					Shrink-swell	0.50
206A:						
Thorp	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
212C2:						
Thebes	Somewhat limited		Not limited		Somewhat limited	
	Shrink-swell	0.50			Slope	0.97
					Shrink-swell	0.50
233B:						
Birkbeck	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.92	Depth to saturated zone	0.99	Shrink-swell	0.92
			Shrink-swell	0.92		
233C2:						
Birkbeck	Somewhat limited		Very limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Slope	0.97
	Depth to saturated zone	0.28	Shrink-swell	0.50	Shrink-swell	0.50
					Depth to saturated zone	0.28
243A:						
St. Charles	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
243B:						
St. Charles	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
243C2:						
St. Charles	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Slope	0.97
					Shrink-swell	0.50
244A:						
Hartsburg	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.50			Shrink-swell	0.50
257A:						
Clarksdale	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00

Table 15a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
272A:						
Edgington	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
			Shrink-swell	0.50		
279A:						
Rozetta	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
			Depth to saturated zone	0.15		
279B:						
Rozetta	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
			Depth to saturated zone	0.15		
279B2:						
Rozetta	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	0.99	Shrink-swell	0.50
			Shrink-swell	0.50		
279C2:						
Rozetta	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Slope	0.97
			Depth to saturated zone	0.15	Shrink-swell	0.50
279C3:						
Rozetta	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	0.15	Slope	0.97
					Shrink-swell	0.50
279D2:						
Rozetta	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.96	Slope	0.96	Slope	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
			Depth to saturated zone	0.15		
280C2:						
Fayette	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Slope	0.97
					Shrink-swell	0.50
280D2:						
Fayette	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.96	Slope	0.96	Slope	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
374A:						
Proctor, sandy substratum	Somewhat limited		Not limited		Somewhat limited	
	Shrink-swell	0.50			Shrink-swell	0.50
533:						
Urban land	Not rated		Not rated		Not rated	

Table 15a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
567C2:						
Elkhart	Somewhat limited		Not limited		Somewhat limited	
	Shrink-swell	0.50			Slope	0.97
					Shrink-swell	0.50
618F:						
Senachwine	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50			Shrink-swell	0.50
622C2:						
Wyanet	Somewhat limited		Not limited		Somewhat limited	
	Shrink-swell	0.50			Slope	0.97
					Shrink-swell	0.50
622D2:						
Wyanet	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.96	Slope	0.96	Slope	1.00
	Shrink-swell	0.50			Shrink-swell	0.50
663A:						
Clare	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	0.99	Shrink-swell	0.50
683A:						
Lawndale	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
684A:						
Broadwell	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
684B:						
Broadwell	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
684C2:						
Broadwell	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Slope	0.97
					Shrink-swell	0.50
685B:						
Middletown	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
685C2:						
Middletown	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Slope	0.97
					Shrink-swell	0.50
685D2:						
Middletown	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.96	Slope	0.96	Slope	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50

Table 15a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
705A:						
Buckhart	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	0.99	Shrink-swell	0.50
			Shrink-swell	0.50		
705B:						
Buckhart	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	0.99	Shrink-swell	0.50
			Shrink-swell	0.50		
712A:						
Spaulding	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Shrink-swell	0.50			Shrink-swell	0.50
726A:						
Elburn, sandy substratum	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.95	Depth to saturated zone	1.00	Depth to saturated zone	0.95
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
733C2:						
Birkbeck	Somewhat limited		Very limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Slope	0.97
	Depth to saturated zone	0.28	Shrink-swell	0.50	Shrink-swell	0.50
					Depth to saturated zone	0.28
Senachwine	Somewhat limited		Not limited		Somewhat limited	
	Shrink-swell	0.50			Slope	0.97
					Shrink-swell	0.50
733C3:						
Birkbeck	Somewhat limited		Very limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Slope	0.97
	Depth to saturated zone	0.28	Shrink-swell	0.50	Shrink-swell	0.50
					Depth to saturated zone	0.28
Senachwine	Somewhat limited		Not limited		Somewhat limited	
	Shrink-swell	0.50			Slope	0.97
					Shrink-swell	0.50
736D2:						
Senachwine	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.96	Slope	0.96	Slope	1.00
	Shrink-swell	0.50			Shrink-swell	0.50
Russell	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.96	Slope	0.96	Slope	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
737A:						
Tama, very deep to sand	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50

Table 15a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
737B:						
Tama, very deep to sand	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
737C2:						
Tama, very deep to sand	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Slope	0.97
					Shrink-swell	0.50
748A:						
Plano, sandy substratum	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
748B:						
Plano, sandy substratum	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
748C2:						
Plano, sandy substratum	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Slope	0.97
					Shrink-swell	0.50
749B:						
Buckhart, till substratum	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	0.99	Shrink-swell	0.50
			Shrink-swell	0.50		
802B:						
Orthents, loamy	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
802E:						
Orthents, loamy	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
827A:						
Broadwell	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Onarga	Not limited		Not limited		Not limited	
827B:						
Broadwell	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Onarga	Not limited		Not limited		Not limited	
827B2:						
Broadwell	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Onarga	Not limited		Not limited		Not limited	

Table 15a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
828D2:						
Broadwell	Somewhat limited		Somewhat limited		Very limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
	Slope	0.37	Slope	0.37	Shrink-swell	0.50
Sparta	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.37	Slope	0.37	Slope	1.00
830:						
Landfills	Not rated		Not rated		Not rated	
861B2:						
Princeton	Not limited		Not limited		Not limited	
Bloomfield	Not limited		Not limited		Not limited	
861D2:						
Princeton	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.37	Slope	0.37	Slope	1.00
Bloomfield	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.37	Slope	0.37	Slope	1.00
861F:						
Princeton	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
Bloomfield	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
864:						
Pits, quarries	Not rated		Not rated		Not rated	
865:						
Pits, gravel	Not rated		Not rated		Not rated	
871B:						
Lenzburg	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
871D:						
Lenzburg	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.96	Slope	0.96	Slope	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
898F2:						
Hickory	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Sylvan	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50			Shrink-swell	0.50
965C2:						
Tallula	Not limited		Not limited		Somewhat limited	
					Slope	0.97
Bold	Not limited		Not limited		Somewhat limited	
					Slope	0.97

Table 15a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
965D2:						
Tallula	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.96	Slope	0.96	Slope	1.00
Bold	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.96	Slope	0.96	Slope	1.00
3073A:						
Ross	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
			Depth to saturated zone	0.35		
3074A:						
Radford	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
			Shrink-swell	0.50		
3077A:						
Huntsville	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
			Depth to saturated zone	0.19		
3107+:						
Sawmill	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
3107A:						
Sawmill	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
3107S:						
Sawmill, sandy substratum	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
3284A:						
Tice	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50

Table 15a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3284S:						
Tice, sandy substratum	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
3304A:						
Landes	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
3405A:						
Zook	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
3408A:						
Aquents, loamy	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
3451A:						
Lawson	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
			Shrink-swell	0.50		
7148A:						
Proctor	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Shrink-swell	0.50			Shrink-swell	0.50
7191A:						
Knight	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
7198A:						
Elburn	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
7199A:						
Plano	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50

Table 15a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
7304A:						
Landes	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
8074A:						
Radford	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	0.81	Depth to saturated zone	1.00	Depth to saturated zone	0.81
			Shrink-swell	0.50		
8107+:						
Sawmill	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
8107A:						
Sawmill	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
8284A:						
Tice	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
8451A:						
Lawson	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
8452A:						
Riley	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
	Shrink-swell	0.50			Shrink-swell	0.50

Table 15b.--Building Site Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
16A:						
Rushville	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Ponding	1.00	Ponding	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	1.00				
	Ponding	1.00				
17A:						
Keomah	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.94
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	1.00				
	Depth to saturated zone	0.94				
27D2:						
Miami	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Slope	0.96
	Slope	0.96	Slope	0.96	Depth to saturated zone	0.19
	Shrink-swell	0.50	Cutbanks cave	0.10		
	Frost action	0.50				
	Depth to saturated zone	0.19				
36A:						
Tama	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
	Shrink-swell	0.50				
36B:						
Tama	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
	Shrink-swell	0.50				
36C2:						
Tama	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
	Shrink-swell	0.50				
36D2:						
Tama	Very limited		Somewhat limited		Somewhat limited	
	Frost action	1.00	Slope	0.96	Slope	0.96
	Low strength	1.00	Cutbanks cave	0.10		
	Slope	0.96				
	Shrink-swell	0.50				

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
43A:						
Ipava	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	1.00				
	Depth to saturated zone	0.75				
45A:						
Denny	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
	Shrink-swell	1.00				
67A:						
Harpster	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
	Shrink-swell	0.50				
68A:						
Sable	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
	Shrink-swell	0.50				
86B:						
Osco	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Depth to saturated zone	0.15		
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
86C2:						
Osco	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Depth to saturated zone	0.15		
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
134C2:						
Camden	Very limited		Very limited		Not limited	
	Frost action	1.00	Cutbanks cave	1.00		
	Low strength	1.00				
	Shrink-swell	0.50				
134C3:						
Camden	Very limited		Very limited		Not limited	
	Frost action	1.00	Cutbanks cave	1.00		
	Low strength	1.00				
	Shrink-swell	0.50				

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
138A:						
Shiloh	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Ponding	1.00	Ponding	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	1.00				
	Ponding	1.00				
148B:						
Proctor	Very limited		Very limited		Not limited	
	Frost action	1.00	Cutbanks cave	1.00		
	Low strength	1.00				
	Shrink-swell	0.50				
148C2:						
Proctor	Very limited		Very limited		Not limited	
	Frost action	1.00	Cutbanks cave	1.00		
	Low strength	1.00				
	Shrink-swell	0.50				
148D2:						
Proctor	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Cutbanks cave	1.00	Slope	0.96
	Low strength	1.00	Slope	0.96		
	Slope	0.96				
	Shrink-swell	0.50				
149A:						
Brenton	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Low strength	1.00	Cutbanks cave	0.50		
	Depth to saturated zone	0.75				
	Shrink-swell	0.50				
152A:						
Drummer	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
	Shrink-swell	0.50				
159B:						
Pillot	Very limited		Very limited		Not limited	
	Frost action	1.00	Cutbanks cave	1.00		
	Low strength	1.00				
	Shrink-swell	0.50				
159C2:						
Pillot	Very limited		Very limited		Not limited	
	Frost action	1.00	Cutbanks cave	1.00		
	Low strength	1.00				
	Shrink-swell	0.50				

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
171B:						
Catlin	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Depth to saturated zone	0.99		
	Low strength	1.00				
	Shrink-swell	0.50	Cutbanks cave	0.10		
171C2:						
Catlin	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Depth to saturated zone	0.99		
	Low strength	1.00				
	Shrink-swell	0.50	Cutbanks cave	0.10		
171D2:						
Catlin	Very limited		Somewhat limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	0.99	Slope	0.96
	Low strength	1.00				
	Slope	0.96	Slope	0.96		
	Shrink-swell	0.50	Cutbanks cave	0.10		
191A:						
Knight	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Ponding	1.00	Ponding	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Ponding	1.00				
	Shrink-swell	0.50				
198A:						
Elburn	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Low strength	1.00				
	Depth to saturated zone	0.75	Cutbanks cave	1.00		
	Shrink-swell	0.50				
199A:						
Plano	Very limited		Very limited		Not limited	
	Frost action	1.00	Cutbanks cave	1.00		
	Low strength	1.00				
	Shrink-swell	0.50				
199B:						
Plano	Very limited		Very limited		Not limited	
	Frost action	1.00	Cutbanks cave	1.00		
	Low strength	1.00				
	Shrink-swell	0.27				
199C2:						
Plano	Very limited		Very limited		Not limited	
	Frost action	1.00	Cutbanks cave	1.00		
	Low strength	1.00				
	Shrink-swell	0.50				

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
206A:						
Thorp	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Ponding	1.00	Ponding	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Ponding	1.00				
	Shrink-swell	0.50				
212C2:						
Thebes	Very limited		Very limited		Not limited	
	Frost action	1.00	Cutbanks cave	1.00		
	Low strength	1.00				
	Shrink-swell	0.50				
233B:						
Birkbeck	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Depth to saturated zone	0.99		
	Low strength	1.00				
	Shrink-swell	0.92	Cutbanks cave	0.10		
233C2:						
Birkbeck	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.14
	Low strength	1.00				
	Shrink-swell	0.50	Cutbanks cave	0.10		
	Depth to saturated zone	0.14				
243A:						
St. Charles	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
	Shrink-swell	0.50				
243B:						
St. Charles	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
	Shrink-swell	0.50				
243C2:						
St. Charles	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
	Shrink-swell	0.50				
244A:						
Hartsburg	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
	Shrink-swell	0.50				

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
257A:						
Clarksdale	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.94
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	1.00				
	Depth to saturated zone	0.94				
272A:						
Edgington	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
279A:						
Rozetta	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Depth to saturated zone	0.15		
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
279B:						
Rozetta	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Depth to saturated zone	0.15		
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
279B2:						
Rozetta	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Depth to saturated zone	0.15		
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
279C2:						
Rozetta	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Depth to saturated zone	0.15		
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
279C3:						
Rozetta	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Depth to saturated zone	0.15		
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
279D2:						
Rozetta	Very limited		Somewhat limited		Somewhat limited	
	Frost action	1.00	Slope	0.96	Slope	0.96
	Low strength	1.00	Depth to saturated zone	0.15		
	Slope	0.96	Cutbanks cave	0.10		
	Shrink-swell	0.50				
280C2:						
Fayette	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
	Shrink-swell	0.50				

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
280D2:						
Fayette	Very limited		Somewhat limited		Somewhat limited	
	Frost action	1.00	Slope	0.96	Slope	0.96
	Low strength	1.00	Cutbanks cave	0.10		
	Slope	0.96				
	Shrink-swell	0.50				
374A:						
Proctor, sandy substratum	Very limited		Very limited		Not limited	
	Frost action	1.00	Cutbanks cave	1.00		
	Low strength	1.00				
	Shrink-swell	0.50				
533:						
Urban land	Not rated		Not rated		Not rated	
567C2:						
Elkhart	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
	Shrink-swell	0.50				
618F:						
Senachwine	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
	Frost action	0.50				
622C2:						
Wyanet	Very limited		Somewhat limited		Not limited	
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
	Frost action	0.50				
622D2:						
Wyanet	Very limited		Somewhat limited		Somewhat limited	
	Low strength	1.00	Slope	0.96	Slope	0.96
	Slope	0.96	Cutbanks cave	0.10		
	Shrink-swell	0.50				
	Frost action	0.50				
663A:						
Clare	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Depth to saturated zone	0.99		
	Low strength	1.00				
	Shrink-swell	0.50	Cutbanks cave	0.10		
683A:						
Lawndale	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Low strength	1.00	Cutbanks cave	1.00		
	Depth to saturated zone	0.75				
	Shrink-swell	0.50				

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
684A:						
Broadwell	Very limited		Very limited		Not limited	
	Frost action	1.00	Cutbanks cave	1.00		
	Low strength	1.00				
	Shrink-swell	0.50				
684B:						
Broadwell	Very limited		Very limited		Not limited	
	Frost action	1.00	Cutbanks cave	1.00		
	Low strength	1.00				
	Shrink-swell	0.50				
684C2:						
Broadwell	Very limited		Very limited		Not limited	
	Frost action	1.00	Cutbanks cave	1.00		
	Low strength	1.00				
	Shrink-swell	0.50				
685B:						
Middletown	Very limited		Very limited		Not limited	
	Frost action	1.00	Cutbanks cave	1.00		
	Low strength	1.00				
	Shrink-swell	0.50				
685C2:						
Middletown	Very limited		Very limited		Not limited	
	Frost action	1.00	Cutbanks cave	1.00		
	Low strength	1.00				
	Shrink-swell	0.50				
685D2:						
Middletown	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Cutbanks cave	1.00	Slope	0.96
	Low strength	1.00	Slope	0.96		
	Slope	0.96				
	Shrink-swell	0.50				
705A:						
Buckhart	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Depth to saturated zone	0.99		
	Low strength	1.00				
	Shrink-swell	0.50	Cutbanks cave	0.10		
705B:						
Buckhart	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Depth to saturated zone	0.99		
	Low strength	1.00				
	Shrink-swell	0.50	Cutbanks cave	0.10		
712A:						
Spaulding	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Ponding	1.00	Ponding	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Ponding	1.00				
	Shrink-swell	0.50				

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
726A:						
Elburn, sandy substratum	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.68
	Low strength	1.00				
	Depth to saturated zone	0.68	Cutbanks cave	1.00		
	Shrink-swell	0.50				
733C2:						
Birkbeck	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.14
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
	Depth to saturated zone	0.14				
Senachwine	Very limited		Somewhat limited		Not limited	
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
	Frost action	0.50				
733C3:						
Birkbeck	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.14
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
	Depth to saturated zone	0.14				
Senachwine	Very limited		Somewhat limited		Not limited	
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
	Frost action	0.50				
736D2:						
Senachwine	Very limited		Somewhat limited		Somewhat limited	
	Low strength	1.00	Slope	0.96	Slope	0.96
	Slope	0.96	Cutbanks cave	0.10		
	Shrink-swell	0.50				
	Frost action	0.50				
Russell	Very limited		Somewhat limited		Somewhat limited	
	Frost action	1.00	Slope	0.96	Slope	0.96
	Low strength	1.00	Cutbanks cave	0.10		
	Slope	0.96				
	Shrink-swell	0.50				
737A:						
Tama, very deep to sand	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
	Shrink-swell	0.50				
737B:						
Tama, very deep to sand	Very limited		Very limited		Not limited	
	Frost action	1.00	Cutbanks cave	1.00		
	Low strength	1.00				
	Shrink-swell	0.50				

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
737C2:						
Tama, very deep to sand	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
	Shrink-swell	0.50				
748A:						
Plano, sandy substratum	Very limited		Very limited		Not limited	
	Frost action	1.00	Cutbanks cave	1.00		
	Low strength	1.00				
	Shrink-swell	0.50				
748B:						
Plano, sandy substratum	Very limited		Very limited		Not limited	
	Frost action	1.00	Cutbanks cave	1.00		
	Low strength	1.00				
	Shrink-swell	0.50				
748C2:						
Plano, sandy substratum	Very limited		Very limited		Not limited	
	Frost action	1.00	Cutbanks cave	1.00		
	Low strength	1.00				
	Shrink-swell	0.50				
749B:						
Buckhart, till substratum	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Depth to saturated zone	0.99		
	Low strength	1.00				
	Shrink-swell	0.50	Cutbanks cave	0.10		
802B:						
Orthents, loamy	Very limited		Somewhat limited		Not limited	
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
	Frost action	0.50				
802E:						
Orthents, loamy	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
	Frost action	0.50				
827A:						
Broadwell	Very limited		Very limited		Not limited	
	Frost action	1.00	Cutbanks cave	1.00		
	Low strength	1.00				
	Shrink-swell	0.50				
Onarga	Somewhat limited		Very limited		Not limited	
	Frost action	0.50	Cutbanks cave	1.00		

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
827B:						
Broadwell	Very limited		Very limited		Not limited	
	Frost action	1.00	Cutbanks cave	1.00		
	Low strength	1.00				
	Shrink-swell	0.50				
Onarga	Somewhat limited		Very limited		Not limited	
	Frost action	0.50	Cutbanks cave	1.00		
827B2:						
Broadwell	Very limited		Very limited		Not limited	
	Frost action	1.00	Cutbanks cave	1.00		
	Low strength	1.00				
	Shrink-swell	0.50				
Onarga	Somewhat limited		Very limited		Not limited	
	Frost action	0.50	Cutbanks cave	1.00		
828D2:						
Broadwell	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Cutbanks cave	1.00	Slope	0.37
	Low strength	1.00	Slope	0.37		
	Shrink-swell	0.50				
	Slope	0.37				
Sparta	Somewhat limited		Very limited		Somewhat limited	
	Slope	0.37	Cutbanks cave	1.00	Slope	0.37
			Slope	0.37	Droughty	0.24
830:						
Landfills	Not rated		Not rated		Not rated	
861B2:						
Princeton	Somewhat limited		Very limited		Not limited	
	Frost action	0.50	Cutbanks cave	1.00		
Bloomfield	Not limited		Very limited		Somewhat limited	
			Cutbanks cave	1.00	Droughty	0.01
861D2:						
Princeton	Somewhat limited		Very limited		Somewhat limited	
	Frost action	0.50	Cutbanks cave	1.00	Slope	0.37
	Slope	0.37	Slope	0.37		
Bloomfield	Somewhat limited		Very limited		Somewhat limited	
	Slope	0.37	Cutbanks cave	1.00	Slope	0.37
			Slope	0.37	Droughty	0.01
861F:						
Princeton	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Frost action	0.50	Cutbanks cave	1.00		
Bloomfield	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
			Cutbanks cave	1.00	Droughty	0.01
864:						
Pits, quarries	Not rated		Not rated		Not rated	

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
865:						
Pits, gravel	Not rated		Not rated		Not rated	
871B:						
Lenzburg	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Cutbanks cave	1.00	Content of large stones	0.01
	Shrink-swell	0.50				
	Frost action	0.50				
871D:						
Lenzburg	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Cutbanks cave	1.00	Slope	0.96
	Slope	0.96	Slope	0.96	Content of large stones	0.01
	Shrink-swell	0.50				
	Frost action	0.50				
898F2:						
Hickory	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
	Frost action	0.50				
Sylvan	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
	Shrink-swell	0.50				
965C2:						
Tallula	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
Bold	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	0.78				
965D2:						
Tallula	Very limited		Somewhat limited		Somewhat limited	
	Frost action	1.00	Slope	0.96	Slope	0.96
	Low strength	1.00	Cutbanks cave	0.10		
	Slope	0.96				
Bold	Very limited		Somewhat limited		Somewhat limited	
	Frost action	1.00	Slope	0.96	Slope	0.96
	Slope	0.96	Cutbanks cave	0.10		
	Low strength	0.78				
3073A:						
Ross	Very limited		Somewhat limited		Very limited	
	Flooding	1.00	Flooding	0.80	Flooding	1.00
	Frost action	0.50	Depth to saturated zone	0.35		
			Cutbanks cave	0.10		

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3074A:						
Radford	Very limited		Very limited		Very limited	
	Frost action	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Flooding	1.00			Depth to saturated zone	0.75
	Low strength	1.00	Flooding	0.80		
	Depth to saturated zone	0.75	Cutbanks cave	0.10		
3077A:						
Huntsville	Very limited		Somewhat limited		Very limited	
	Frost action	1.00	Flooding	0.80	Flooding	1.00
	Flooding	1.00	Depth to saturated zone	0.19		
	Low strength	1.00	Cutbanks cave	0.10		
3107+:						
Sawmill	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Frost action	1.00	Flooding	0.80	Depth to saturated zone	1.00
	Flooding	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
	Shrink-swell	0.50				
3107A:						
Sawmill	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Frost action	1.00	Flooding	0.80	Depth to saturated zone	1.00
	Flooding	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
3107S:						
Sawmill, sandy substratum	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Frost action	1.00	Cutbanks cave	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Ponding	1.00	Ponding	1.00
	Low strength	1.00	Flooding	0.80		
	Ponding	1.00				
3284A:						
Tice	Very limited		Very limited		Very limited	
	Frost action	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Flooding	1.00			Depth to saturated zone	0.75
	Low strength	1.00	Flooding	0.80		
	Depth to saturated zone	0.75	Cutbanks cave	0.10		
	Shrink-swell	0.50				
3284S:						
Tice, sandy substratum	Very limited		Very limited		Very limited	
	Frost action	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Flooding	1.00			Depth to saturated zone	0.75
	Low strength	1.00	Flooding	0.80		
	Depth to saturated zone	0.75	Cutbanks cave	0.10		
	Shrink-swell	0.50				

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3304A:						
Landes	Very limited		Very limited		Very limited	
	Flooding	1.00	Cutbanks cave	1.00	Flooding	1.00
	Frost action	0.50	Flooding	0.80		
3405A:						
Zook	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Frost action	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	0.80	Ponding	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	1.00	Too clayey	0.01		
3408A:						
Aquents, loamy	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Frost action	1.00	Flooding	0.80	Depth to saturated zone	1.00
	Flooding	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
3451A:						
Lawson	Very limited		Very limited		Very limited	
	Frost action	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Flooding	1.00			Depth to saturated zone	0.75
	Low strength	1.00	Flooding	0.80		
	Depth to saturated zone	0.75	Cutbanks cave	0.10		
7148A:						
Proctor	Very limited		Very limited		Not limited	
	Frost action	1.00	Cutbanks cave	1.00		
	Low strength	1.00				
	Shrink-swell	0.50				
	Flooding	0.40				
7191A:						
Knight	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Ponding	1.00	Ponding	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Ponding	1.00				
	Shrink-swell	0.50				
7198A:						
Elburn	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Low strength	1.00	Cutbanks cave	1.00		
	Depth to saturated zone	0.75				
	Shrink-swell	0.50				
	Flooding	0.40				

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
7199A:						
Plano	Very limited		Very limited		Not limited	
	Frost action	1.00	Cutbanks cave	1.00		
	Low strength	1.00				
	Shrink-swell	0.50				
	Flooding	0.40				
7304A:						
Landes	Somewhat limited		Very limited		Not limited	
	Frost action	0.50	Cutbanks cave	1.00		
	Flooding	0.40				
8074A:						
Radford	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Flooding	0.60
	Flooding	1.00	Flooding	0.60	Depth to saturated zone	0.48
	Low strength	1.00	Cutbanks cave	0.10		
	Depth to saturated zone	0.48				
8107+:						
Sawmill	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Flooding	0.60	Flooding	0.60
	Flooding	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
	Shrink-swell	0.50				
8107A:						
Sawmill	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Flooding	0.60	Flooding	0.60
	Flooding	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
8284A:						
Tice	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Flooding	1.00	Flooding	0.60	Flooding	0.60
	Low strength	1.00	Cutbanks cave	0.10		
	Depth to saturated zone	0.75				
	Shrink-swell	0.50				
8451A:						
Lawson	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Flooding	1.00	Flooding	0.60	Flooding	0.60
	Low strength	1.00	Cutbanks cave	0.10		
	Depth to saturated zone	0.75				

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8452A:						
Riley	Very limited		Very limited		Somewhat limited	
	Flooding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Low strength	1.00	Cutbanks cave	1.00	Flooding	0.60
	Depth to saturated zone	0.75	Flooding	0.60		
	Shrink-swell	0.50				
	Frost action	0.50				

Table 16a.--Sanitary Facilities

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
16A:				
Rushville	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00		
17A:				
Keomah	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	0.53
27D2:				
Miami	Very limited		Very limited	
	Depth to saturated zone	1.00	Slope	1.00
	Slow water movement	1.00	Depth to saturated zone	0.75
	Slope	0.96	Seepage	0.53
36A:				
Tama	Somewhat limited		Somewhat limited	
	Slow water movement	0.46	Seepage	0.53
36B:				
Tama	Somewhat limited		Somewhat limited	
	Slow water movement	0.46	Seepage	0.53
			Slope	0.18
36C2:				
Tama	Somewhat limited		Very limited	
	Slow water movement	0.46	Slope	1.00
			Seepage	0.53
36D2:				
Tama	Somewhat limited		Very limited	
	Slope	0.96	Slope	1.00
	Slow water movement	0.46	Seepage	0.53
43A:				
Ipava	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Seepage	0.53

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
45A:				
Denny	Very limited		Very limited	
	Slow water movement	1.00	Ponding	1.00
	Ponding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00		
67A:				
Harpster	Very limited		Very limited	
	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.46	Seepage	0.53
68A:				
Sable	Very limited		Very limited	
	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.46	Seepage	0.53
86B:				
Osco	Somewhat limited		Somewhat limited	
	Slow water movement	0.46	Seepage	0.53
	Depth to saturated zone	0.40	Slope	0.18
86C2:				
Osco	Somewhat limited		Very limited	
	Slow water movement	0.46	Slope	1.00
	Depth to saturated zone	0.40	Seepage	0.53
134C2:				
Camden	Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46	Slope	1.00
134C3:				
Camden	Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46	Slope	1.00
138A:				
Shiloh	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Ponding	1.00
	Ponding	1.00		

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
148B:				
Proctor	Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46	Slope	0.18
148C2:				
Proctor	Very limited		Very limited	
	Seepage, bottom layer	1.00	Slope	1.00
	Slow water movement	0.46	Seepage	1.00
148D2:				
Proctor	Very limited		Very limited	
	Seepage, bottom layer	1.00	Slope	1.00
	Slope	0.96	Seepage	1.00
	Slow water movement	0.46		
149A:				
Brenton	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.46	Seepage	0.53
152A:				
Drummer	Very limited		Very limited	
	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.46	Seepage	0.53
159B:				
Pillot	Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46	Slope	0.18
159C2:				
Pillot	Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46	Slope	1.00
171B:				
Catlin	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Seepage	0.53
			Slope	0.08

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
171C2:				
Catlin	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Slope	1.00
			Seepage	0.53
171D2:				
Catlin	Very limited		Very limited	
	Depth to saturated zone	1.00	Slope	1.00
	Slow water movement	1.00	Seepage	0.53
	Slope	0.96	Depth to saturated zone	0.08
191A:				
Knight	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Ponding	1.00
	Ponding	1.00		
198A:				
Elburn	Very limited		Very limited	
	Depth to saturated zone	1.00	Seepage	1.00
	Seepage, bottom layer	1.00	Depth to saturated zone	1.00
	Slow water movement	0.46		
199A:				
Plano	Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46		
199B:				
Plano	Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46	Slope	0.18
199C2:				
Plano	Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46	Slope	1.00

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
206A:				
Thorp	Very limited		Very limited	
	Slow water movement	1.00	Seepage	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00	Ponding	1.00
	Ponding	1.00		
212C2:				
Thebes	Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46	Slope	1.00
233B:				
Birkbeck	Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Seepage	0.53
	Slow water movement	1.00	Depth to saturated zone	0.19
			Slope	0.18
233C2:				
Birkbeck	Very limited		Very limited	
	Depth to saturated zone	1.00	Slope	1.00
	Slow water movement	1.00	Depth to saturated zone	0.68
			Seepage	0.53
243A:				
St. Charles	Somewhat limited		Somewhat limited	
	Slow water movement	0.46	Seepage	0.53
243B:				
St. Charles	Somewhat limited		Somewhat limited	
	Slow water movement	0.46	Seepage	0.53
			Slope	0.18
243C2:				
St. Charles	Somewhat limited		Very limited	
	Slow water movement	0.46	Slope	1.00
			Seepage	0.53
244A:				
Hartsburg	Very limited		Very limited	
	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.46	Seepage	0.53
257A:				
Clarksdale	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Seepage	0.53

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
272A:				
Edgington	Very limited		Very limited	
	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Seepage	0.53
279A:				
Rozetta	Somewhat limited		Somewhat limited	
	Slow water movement	0.46	Seepage	0.53
	Depth to saturated zone	0.40		
279B:				
Rozetta	Somewhat limited		Somewhat limited	
	Slow water movement	0.46	Seepage	0.53
	Depth to saturated zone	0.40	Slope	0.18
279B2:				
Rozetta	Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Seepage	0.53
	Slow water movement	1.00	Slope	0.08
			Depth to saturated zone	0.04
279C2:				
Rozetta	Somewhat limited		Very limited	
	Slow water movement	0.46	Slope	1.00
	Depth to saturated zone	0.40	Seepage	0.53
279C3:				
Rozetta	Somewhat limited		Very limited	
	Slow water movement	0.46	Slope	1.00
	Depth to saturated zone	0.40	Seepage	0.53
279D2:				
Rozetta	Somewhat limited		Very limited	
	Slope	0.96	Slope	1.00
	Slow water movement	0.46	Seepage	0.53
	Depth to saturated zone	0.40		
280C2:				
Fayette	Somewhat limited		Very limited	
	Slow water movement	0.46	Slope	1.00
			Seepage	0.53
280D2:				
Fayette	Somewhat limited		Very limited	
	Slope	0.96	Slope	1.00
	Slow water movement	0.46	Seepage	0.53

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
374A:				
Proctor, sandy substratum	Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46		
533:				
Urban land	Not rated		Not rated	
567C2:				
Elkhart	Somewhat limited		Very limited	
	Slow water movement	0.46	Slope	1.00
			Seepage	0.53
618F:				
Senachwine	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Slow water movement	1.00	Seepage	0.53
622C2:				
Wyanet	Very limited		Very limited	
	Slow water movement	1.00	Slope	1.00
			Seepage	0.53
622D2:				
Wyanet	Very limited		Very limited	
	Slow water movement	1.00	Slope	1.00
	Slope	0.96	Seepage	0.53
663A:				
Clare	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.46	Seepage	0.53
683A:				
Lawndale	Very limited		Very limited	
	Depth to saturated zone	1.00	Seepage	1.00
	Seepage, bottom layer	1.00	Depth to saturated zone	1.00
	Slow water movement	0.46		
684A:				
Broadwell	Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46		

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
684B:				
Broadwell	Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46	Slope	0.18
684C2:				
Broadwell	Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46	Slope	1.00
685B:				
Middletown	Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46	Slope	0.18
685C2:				
Middletown	Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46	Slope	1.00
685D2:				
Middletown	Very limited		Very limited	
	Seepage, bottom layer	1.00	Slope	1.00
	Slope	0.96	Seepage	1.00
	Slow water movement	0.46		
705A:				
Buckhart	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.46	Seepage	0.53
705B:				
Buckhart	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.46	Seepage	0.53
			Slope	0.18
712A:				
Spaulding	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00
	Slow water movement	0.46	Seepage	0.53

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
726A:				
Elburn, sandy substratum	Very limited		Very limited	
	Depth to saturated zone	1.00	Seepage	1.00
	Seepage, bottom layer	1.00	Depth to saturated zone	1.00
	Slow water movement	0.46		
733C2:				
Birkbeck	Very limited		Very limited	
	Depth to saturated zone	1.00	Slope	1.00
	Slow water movement	1.00	Depth to saturated zone	0.68
			Seepage	0.53
Senachwine	Very limited		Very limited	
	Slow water movement	1.00	Slope	1.00
			Seepage	0.53
733C3:				
Birkbeck	Very limited		Very limited	
	Depth to saturated zone	1.00	Slope	1.00
	Slow water movement	1.00	Depth to saturated zone	0.68
			Seepage	0.53
Senachwine	Very limited		Very limited	
	Slow water movement	1.00	Slope	1.00
			Seepage	0.53
736D2:				
Senachwine	Very limited		Very limited	
	Slow water movement	1.00	Slope	1.00
	Slope	0.96	Seepage	0.53
Russell	Very limited		Very limited	
	Slow water movement	1.00	Slope	1.00
	Slope	0.96	Seepage	0.53
737A:				
Tama, very deep to sand	Very limited		Somewhat limited	
	Seepage, bottom layer	1.00	Seepage	0.53
	Slow water movement	0.46		
737B:				
Tama, very deep to sand	Very limited		Somewhat limited	
	Seepage, bottom layer	1.00	Seepage	0.53
	Slow water movement	0.46	Slope	0.18

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
737C2:				
Tama, very deep to sand	Very limited		Very limited	
	Seepage, bottom layer	1.00	Slope	1.00
	Slow water movement	0.46	Seepage	0.53
748A:				
Plano, sandy substratum	Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46		
748B:				
Plano, sandy substratum	Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46	Slope	0.08
748C2:				
Plano, sandy substratum	Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46	Slope	1.00
749B:				
Buckhart, till substratum	Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Seepage	0.53
	Slow water movement	1.00	Slope	0.18
			Depth to saturated zone	0.04
802B:				
Orthents, loamy	Very limited		Somewhat limited	
	Slow water movement	1.00	Slope	0.32
802E:				
Orthents, loamy	Very limited		Very limited	
	Slow water movement	1.00	Slope	1.00
	Slope	1.00		
827A:				
Broadwell	Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46		

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
827A:				
Onarga	Very limited Seepage, bottom layer	1.00	Very limited Seepage	1.00
827B:				
Broadwell	Very limited Seepage, bottom layer Slow water movement	1.00 0.46	Very limited Seepage Slope	1.00 0.18
Onarga	Very limited Seepage, bottom layer	1.00	Very limited Seepage Slope	1.00 0.18
827B2:				
Broadwell	Very limited Seepage, bottom layer Slow water movement	1.00 0.46	Very limited Seepage Slope	1.00 0.18
Onarga	Very limited Seepage, bottom layer	1.00	Very limited Seepage Slope	1.00 0.18
828D2:				
Broadwell	Very limited Seepage, bottom layer Slow water movement Slope	1.00 0.46 0.37	Very limited Slope Seepage	1.00 1.00
Sparta	Very limited Filtering capacity Seepage, bottom layer Slope	1.00 1.00 0.37	Very limited Slope Seepage	1.00 1.00
830:				
Landfills	Not rated		Not rated	
861B2:				
Princeton	Very limited Seepage, bottom layer Slow water movement	1.00 0.46	Very limited Seepage Slope	1.00 0.32
Bloomfield	Very limited Seepage, bottom layer Filtering capacity	1.00 1.00	Very limited Seepage Slope	1.00 0.32

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
861D2:				
Princeton	Very limited		Very limited	
	Seepage, bottom layer	1.00	Slope	1.00
	Slow water movement	0.46	Seepage	1.00
	Slope	0.37		
Bloomfield	Very limited		Very limited	
	Seepage, bottom layer	1.00	Slope	1.00
	Filtering capacity	1.00	Seepage	1.00
	Slope	0.37		
861F:				
Princeton	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46		
Bloomfield	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
	Filtering capacity	1.00		
864:				
Pits, quarries	Not rated		Not rated	
865:				
Pits, gravel	Not rated		Not rated	
871B:				
Lenzburg	Very limited		Somewhat limited	
	Slow water movement	1.00	Slope	0.32
871D:				
Lenzburg	Very limited		Very limited	
	Slow water movement	1.00	Slope	1.00
	Slope	0.96		
898F2:				
Hickory	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Slow water movement	0.46	Seepage	0.53
Sylvan	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Slow water movement	0.46	Seepage	0.53

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
965C2:				
Tallula	Somewhat limited		Very limited	
	Slow water movement	0.46	Slope	1.00
			Seepage	0.53
Bold	Somewhat limited		Very limited	
	Slow water movement	0.46	Slope	1.00
			Seepage	0.53
965D2:				
Tallula	Somewhat limited		Very limited	
	Slope	0.96	Slope	1.00
	Slow water movement	0.46	Seepage	0.53
Bold	Somewhat limited		Very limited	
	Slope	0.96	Slope	1.00
	Slow water movement	0.46	Seepage	0.53
3073A:				
Ross	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
	Depth to saturated zone	0.84	Depth to saturated zone	0.17
	Slow water movement	0.46		
3074A:				
Radford	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.46	Seepage	0.53
3077A:				
Huntsville	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	0.53	Seepage	0.53
	Slow water movement	0.46	Depth to saturated zone	0.01
3107+:				
Sawmill	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.46	Seepage	0.53

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
3107A:				
Sawmill	Very limited		Very limited	
	Flooding	1.00	Ponding	1.00
	Ponding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.46	Seepage	0.53
3107S:				
Sawmill, sandy substratum	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Seepage	1.00
	Seepage, bottom layer	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00
	Slow water movement	0.46		
3284A:				
Tice	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.46	Seepage	0.53
3284S:				
Tice, sandy substratum	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Seepage	1.00
	Seepage, bottom layer	1.00	Depth to saturated zone	1.00
	Slow water movement	0.46		
3304A:				
Landes	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
3405A:				
Zook	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00		

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
3408A:				
Aquents, loamy	Very limited		Very limited	
	Flooding	1.00	Ponding	1.00
	Ponding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Seepage	1.00
	Slow water movement	0.46	Depth to saturated zone	1.00
3451A:				
Lawson	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.46	Seepage	0.53
7148A:				
Proctor	Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46	Flooding	0.40
	Flooding	0.40		
7191A:				
Knight	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Ponding	1.00
	Ponding	1.00	Seepage	0.53
	Flooding	0.40	Flooding	0.40
7198A:				
Elburn	Very limited		Very limited	
	Depth to saturated zone	1.00	Seepage	1.00
	Seepage, bottom layer	1.00	Depth to saturated zone	1.00
	Slow water movement	0.46	Flooding	0.40
	Flooding	0.40		
7199A:				
Plano	Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46	Flooding	0.40
	Flooding	0.40		
7304A:				
Landes	Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00
	Flooding	0.40	Flooding	0.40

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
8074A:				
Radford	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.46	Seepage	0.53
8107+:				
Sawmill	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.46	Seepage	0.53
8107A:				
Sawmill	Very limited		Very limited	
	Flooding	1.00	Ponding	1.00
	Ponding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.46	Seepage	0.53
8284A:				
Tice	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.46	Seepage	0.53
8451A:				
Lawson	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.46	Seepage	0.53
8452A:				
Riley	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Seepage	1.00
	Seepage, bottom layer	1.00	Depth to saturated zone	1.00
	Slow water movement	0.46		

Table 16b.--Sanitary Facilities

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
16A:						
Rushville	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
					Too clayey	0.50
17A:						
Keomah	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
					Too clayey	0.50
27D2:						
Miami	Very limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	1.00	Slope	0.96	Slope	0.96
	Slope	0.96	Depth to saturated zone	0.75	Depth to saturated zone	0.86
36A:						
Tama	Somewhat limited		Not limited		Somewhat limited	
	Too clayey	0.50			Too clayey	0.50
36B:						
Tama	Somewhat limited		Not limited		Somewhat limited	
	Too clayey	0.50			Too clayey	0.50
36C2:						
Tama	Not limited		Not limited		Not limited	
36D2:						
Tama	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.96	Slope	0.96	Slope	0.96
43A:						
Ipava	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Too clayey	0.50
45A:						
Denny	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Hard to compact	1.00
					Too clayey	0.50
67A:						
Harpster	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Too clayey	0.50

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
68A:						
Sable	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Too clayey	0.50
86B:						
Osco	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Too clayey	0.50				
86C2:						
Osco	Very limited		Very limited		Not limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00		
134C2:						
Camden	Very limited		Not limited		Somewhat limited	
	Seepage, bottom layer	1.00			Too sandy	0.50
	Too sandy	0.50			Too clayey	0.50
					Seepage	0.22
134C3:						
Camden	Very limited		Not limited		Somewhat limited	
	Seepage, bottom layer	1.00			Too clayey	0.50
					Seepage	0.22
138A:						
Shiloh	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Hard to compact	1.00
	Too clayey	0.50			Ponding	1.00
					Too clayey	0.50
148B:						
Proctor	Very limited		Very limited		Somewhat limited	
	Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.22
148C2:						
Proctor	Very limited		Very limited		Somewhat limited	
	Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.22
148D2:						
Proctor	Very limited		Very limited		Somewhat limited	
	Seepage, bottom layer	1.00	Seepage	1.00	Slope	0.96
	Slope	0.96	Slope	0.96	Seepage	0.22
149A:						
Brenton	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Too clayey	0.50

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
152A:						
Drummer	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Too clayey	0.50
159B:						
Pillot	Very limited		Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
	Too sandy	0.50			Too sandy	0.50
159C2:						
Pillot	Very limited		Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
	Too sandy	0.50			Too sandy	0.50
171B:						
Catlin	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Too clayey	0.50			Depth to saturated zone	0.32
171C2:						
Catlin	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Too clayey	0.50			Depth to saturated zone	0.32
171D2:						
Catlin	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.96	Slope	0.96	Slope	0.96
	Depth to saturated zone	0.76	Depth to saturated zone	0.08	Too clayey	0.50
	Too clayey	0.50			Depth to saturated zone	0.32
191A:						
Knight	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Too clayey	0.50			Too clayey	0.50
198A:						
Elburn	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00			Too clayey	0.50
	Too clayey	0.50				
199A:						
Plano	Very limited		Not limited		Somewhat limited	
	Seepage, bottom layer	1.00			Too clayey	0.50
	Too clayey	0.50				

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
199B:						
Plano	Very limited		Not limited		Somewhat limited	
	Seepage, bottom layer	1.00			Too clayey	0.50
	Too clayey	0.50				
199C2:						
Plano	Very limited		Not limited		Somewhat limited	
	Seepage, bottom layer	1.00			Too clayey	0.50
	Too clayey	0.50				
206A:						
Thorp	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00	Ponding	1.00	Ponding	1.00
	Ponding	1.00			Too clayey	0.50
	Too clayey	0.50				
212C2:						
Thebes	Very limited		Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
	Too sandy	0.50			Too sandy	0.50
					Too clayey	0.50
233B:						
Birkbeck	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.86	Depth to saturated zone	0.19	Too clayey	0.50
	Too clayey	0.50			Depth to saturated zone	0.47
233C2:						
Birkbeck	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.99	Depth to saturated zone	0.68	Depth to saturated zone	0.82
	Too clayey	0.50			Too clayey	0.50
243A:						
St. Charles	Somewhat limited		Not limited		Somewhat limited	
	Too clayey	0.50			Too clayey	0.50
243B:						
St. Charles	Somewhat limited		Not limited		Somewhat limited	
	Too clayey	0.50			Too clayey	0.50
243C2:						
St. Charles	Somewhat limited		Not limited		Somewhat limited	
	Too clayey	0.50			Too clayey	0.50
244A:						
Hartsburg	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
257A:						
Clarksdale	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Hard to compact	1.00
					Too clayey	0.50
272A:						
Edgington	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Too clayey	0.50
279A:						
Rozetta	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Too clayey	0.50				
279B:						
Rozetta	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Too clayey	0.50				
279B2:						
Rozetta	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.68	Depth to saturated zone	0.04	Too clayey	0.50
	Too clayey	0.50			Depth to saturated zone	0.24
279C2:						
Rozetta	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Too clayey	0.50				
279C3:						
Rozetta	Very limited		Very limited		Not limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00		
279D2:						
Rozetta	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Slope	0.96
	Slope	0.96	Slope	0.96	Too clayey	0.50
	Too clayey	0.50				
280C2:						
Fayette	Somewhat limited		Not limited		Somewhat limited	
	Too clayey	0.50			Too clayey	0.50
280D2:						
Fayette	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.96	Slope	0.96	Slope	0.96
	Too clayey	0.50			Too clayey	0.50

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
374A:						
Proctor, sandy substratum	Very limited		Very limited		Somewhat limited	
	Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.52
533:						
Urban land	Not rated		Not rated		Not rated	
567C2:						
Elkhart	Not limited		Not limited		Not limited	
618F:						
Senachwine	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
622C2:						
Wyanet	Not limited		Not limited		Not limited	
622D2:						
Wyanet	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.96	Slope	0.96	Slope	0.96
663A:						
Clare	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.47
683A:						
Lawndale	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Seepage	1.00
	Seepage, bottom layer	1.00			Depth to saturated zone	1.00
	Too clayey	0.50			Too clayey	0.50
684A:						
Broadwell	Very limited		Not limited		Somewhat limited	
	Seepage, bottom layer	1.00			Too clayey	0.50
	Too clayey	0.50				
684B:						
Broadwell	Very limited		Not limited		Somewhat limited	
	Seepage, bottom layer	1.00			Too clayey	0.50
	Too clayey	0.50				
684C2:						
Broadwell	Very limited		Not limited		Somewhat limited	
	Seepage, bottom layer	1.00			Too clayey	0.50
	Too clayey	0.50				
685B:						
Middletown	Very limited		Not limited		Somewhat limited	
	Seepage, bottom layer	1.00			Too clayey	0.50
	Too clayey	0.50				

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
685C2:						
Middletown	Very limited		Not limited		Somewhat limited	
	Seepage, bottom layer	1.00			Too clayey	0.50
	Too clayey	0.50				
685D2:						
Middletown	Very limited		Somewhat limited		Somewhat limited	
	Seepage, bottom layer	1.00	Slope	0.96	Slope	0.96
	Slope	0.96			Too clayey	0.50
	Too clayey	0.50				
705A:						
Buckhart	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Too clayey	0.50			Depth to saturated zone	0.24
705B:						
Buckhart	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Too clayey	0.50			Depth to saturated zone	0.24
712A:						
Spaulding	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
					Too clayey	0.50
726A:						
Elburn, sandy substratum	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Seepage	1.00
	Seepage, bottom layer	1.00			Depth to saturated zone	0.99
	Too clayey	0.50			Too clayey	0.50
733C2:						
Birkbeck	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.99	Depth to saturated zone	0.68	Depth to saturated zone	0.82
	Too clayey	0.50			Too clayey	0.50
Senachwine	Not limited		Not limited		Not limited	
733C3:						
Birkbeck	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.99	Depth to saturated zone	0.68	Depth to saturated zone	0.82
	Too clayey	0.50			Too clayey	0.50
Senachwine	Not limited		Not limited		Not limited	

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
736D2:						
Senachwine	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.96	Slope	0.96	Slope	0.96
Russell	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.96	Slope	0.96	Slope	0.96
	Too clayey	0.50			Too clayey	0.50
737A:						
Tama, very deep to sand	Very limited		Not limited		Somewhat limited	
	Seepage, bottom layer	1.00			Too clayey	0.50
	Too clayey	0.50				
737B:						
Tama, very deep to sand	Very limited		Not limited		Somewhat limited	
	Seepage, bottom layer	1.00			Too clayey	0.50
	Too clayey	0.50				
737C2:						
Tama, very deep to sand	Very limited		Not limited		Somewhat limited	
	Seepage, bottom layer	1.00			Too clayey	0.50
	Too clayey	0.50				
748A:						
Plano, sandy substratum	Very limited		Not limited		Somewhat limited	
	Seepage, bottom layer	1.00			Too clayey	0.50
	Too clayey	0.50				
748B:						
Plano, sandy substratum	Very limited		Not limited		Very limited	
	Seepage, bottom layer	1.00			Seepage	1.00
	Too clayey	0.50			Too clayey	0.50
748C2:						
Plano, sandy substratum	Very limited		Not limited		Very limited	
	Seepage, bottom layer	1.00			Seepage	1.00
	Too clayey	0.50			Too clayey	0.50
749B:						
Buckhart, till substratum	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.68	Depth to saturated zone	0.04	Too clayey	0.50
	Too clayey	0.50			Depth to saturated zone	0.24
802B:						
Orthents, loamy	Not limited		Not limited		Not limited	

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
802E:						
Orthents, loamy	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
827A:						
Broadwell	Very limited		Not limited		Somewhat limited	
	Seepage, bottom layer	1.00			Too clayey	0.50
	Too clayey	0.50				
Onarga	Very limited		Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
	Too sandy	1.00			Seepage	1.00
827B:						
Broadwell	Very limited		Not limited		Somewhat limited	
	Seepage, bottom layer	1.00			Too clayey	0.50
	Too clayey	0.50				
Onarga	Very limited		Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
	Too sandy	1.00			Seepage	1.00
827B2:						
Broadwell	Very limited		Not limited		Somewhat limited	
	Seepage, bottom layer	1.00			Too clayey	0.50
	Too clayey	0.50				
Onarga	Very limited		Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
	Too sandy	1.00			Seepage	1.00
828D2:						
Broadwell	Very limited		Somewhat limited		Somewhat limited	
	Seepage, bottom layer	1.00	Slope	0.37	Too clayey	0.50
	Too clayey	0.50			Slope	0.37
	Slope	0.37				
Sparta	Very limited		Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
	Too sandy	1.00	Slope	0.37	Seepage	1.00
	Slope	0.37			Slope	0.37
830:						
Landfills	Not rated		Not limited		Not rated	
861B2:						
Princeton	Very limited		Very limited		Somewhat limited	
	Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.52
	Too sandy	0.50			Too sandy	0.50

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
861B2:						
Bloomfield	Very limited		Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
	Too sandy	0.50			Too sandy	0.50
861D2:						
Princeton	Very limited		Very limited		Somewhat limited	
	Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.52
	Too sandy	0.50	Slope	0.37	Too sandy	0.50
	Slope	0.37			Slope	0.37
Bloomfield	Very limited		Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
			Slope	0.37	Too sandy	0.50
	Too sandy	0.50			Slope	0.37
	Slope	0.37				
861F:						
Princeton	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.52
					Too sandy	0.50
	Too sandy	0.50				
Bloomfield	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
					Too sandy	0.50
	Too sandy	0.50				
864:						
Pits, quarries	Not rated		Not rated		Not rated	
865:						
Pits, gravel	Not rated		Not rated		Not rated	
871B:						
Lenzburg	Somewhat limited		Not limited		Somewhat limited	
	Too clayey	0.50			Too clayey	0.50
871D:						
Lenzburg	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.96	Slope	0.96	Slope	0.96
	Too clayey	0.50			Too clayey	0.50
898F2:						
Hickory	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Too clayey	0.50			Too clayey	0.50
Sylvan	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
965C2:						
Tallula	Not limited		Not limited		Not limited	
Bold	Not limited		Not limited		Not limited	

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
965D2:						
Tallula	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.96	Slope	0.96	Slope	0.96
Bold	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.96	Slope	0.96	Slope	0.96
3073A:						
Ross	Very limited		Very limited		Not limited	
	Flooding	1.00	Flooding	1.00		
	Depth to saturated zone	1.00	Depth to saturated zone	1.00		
	Seepage, bottom layer	1.00				
3074A:						
Radford	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00		
3077A:						
Huntsville	Very limited		Very limited		Not limited	
	Flooding	1.00	Flooding	1.00		
	Depth to saturated zone	1.00	Depth to saturated zone	1.00		
3107+:						
Sawmill	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Too clayey	0.50				
3107A:						
Sawmill	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Too clayey	0.50				
3107S:						
Sawmill, sandy substratum	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Seepage, bottom layer	1.00	Ponding	1.00	Too clayey	0.50
	Ponding	1.00				
	Too clayey	0.50				
3284A:						
Tice	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Too clayey	0.50				

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3284S:						
Tice, sandy substratum	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Seepage, bottom layer	1.00				
	Too clayey	0.50				
3304A:						
Landes	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Too sandy	1.00
	Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
	Too sandy	1.00				
3405A:						
Zook	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	1.00
	Too clayey	1.00	Ponding	1.00	Hard to compact	1.00
	Ponding	1.00			Ponding	1.00
3408A:						
Aquents, loamy	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00		
3451A:						
Lawson	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00		
7148A:						
Proctor	Very limited		Somewhat limited		Not limited	
	Seepage, bottom layer	1.00	Flooding	0.40		
	Flooding	0.40				
7191A:						
Knight	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Too clayey	0.50	Flooding	0.40	Too clayey	0.50
	Flooding	0.40				
7198A:						
Elburn	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00	Flooding	0.40	Too clayey	0.50
	Too clayey	0.50				
	Flooding	0.40				

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
7199A:						
Plano	Very limited		Somewhat limited		Somewhat limited	
	Seepage, bottom layer	1.00	Flooding	0.40	Too clayey	0.50
	Too clayey	0.50				
	Flooding	0.40				
7304A:						
Landes	Very limited		Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
	Too sandy	1.00	Flooding	0.40	Seepage	1.00
	Flooding	0.40				
8074A:						
Radford	Very limited		Very limited		Somewhat limited	
	Flooding	1.00	Flooding	1.00	Depth to saturated zone	0.96
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Too clayey	0.50				
8107+:						
Sawmill	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Too clayey	0.50				
8107A:						
Sawmill	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Too clayey	0.50				
8284A:						
Tice	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Too clayey	0.50				
8451A:						
Lawson	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00		
8452A:						
Riley	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Too sandy	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Seepage	1.00
	Seepage, bottom layer	1.00	Seepage	1.00	Depth to saturated zone	1.00
	Too sandy	1.00				

Table 17a.--Construction Materials

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The ratings given for the thickest layer are for the thickest layer above and excluding the bottom layer. The numbers in the value column range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand. See text for further explanation of ratings in this table)

Map symbol and soil name	Potential as source of sand	
	Rating class	Value
16A:		
Rushville	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
17A:		
Keomah	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
27D2:		
Miami	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
36A:		
Tama	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
36B:		
Tama	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
36C2:		
Tama	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
36D2:		
Tama	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
43A:		
Ipava	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
45A:		
Denny	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
67A:		
Harpster	Poor	
	Bottom layer	0.00
	Thickest layer	0.00

Table 17a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of sand	
	Rating class	Value
68A:		
Sable	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
86B:		
Osco	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
86C2:		
Osco	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
134C2:		
Camden	Fair	
	Thickest layer	0.00
	Bottom layer	0.08
134C3:		
Camden	Fair	
	Thickest layer	0.00
	Bottom layer	0.08
138A:		
Shiloh	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
148B:		
Proctor	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
148C2:		
Proctor	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
148D2:		
Proctor	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
149A:		
Brenton	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
152A:		
Drummer	Fair	
	Thickest layer	0.00
	Bottom layer	0.01
159B:		
Pillot	Fair	
	Thickest layer	0.00
	Bottom layer	0.09

Table 17a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of sand	
	Rating class	Value
159C2:		
Pillot	Fair	
	Thickest layer	0.00
	Bottom layer	0.09
171B:		
Catlin	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
171C2:		
Catlin	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
171D2:		
Catlin	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
191A:		
Knight	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
198A:		
Elburn	Fair	
	Thickest layer	0.00
	Bottom layer	0.05
199A:		
Plano	Poor	
	Thickest layer	0.00
	Bottom layer	0.00
199B:		
Plano	Poor	
	Thickest layer	0.00
	Bottom layer	0.00
199C2:		
Plano	Poor	
	Thickest layer	0.00
	Bottom layer	0.00
206A:		
Thorp	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
212C2:		
Thebes	Fair	
	Thickest layer	0.00
	Bottom layer	0.07
233B:		
Birkbeck	Poor	
	Bottom layer	0.00
	Thickest layer	0.00

Table 17a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of sand	
	Rating class	Value
233C2:		
Birkbeck	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
243A:		
St. Charles	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
243B:		
St. Charles	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
243C2:		
St. Charles	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
244A:		
Hartsburg	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
257A:		
Clarksdale	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
272A:		
Edgington	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
279A:		
Rozetta	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
279B:		
Rozetta	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
279B2:		
Rozetta	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
279C2:		
Rozetta	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
279C3:		
Rozetta	Poor	
	Bottom layer	0.00
	Thickest layer	0.00

Table 17a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of sand	
	Rating class	Value
279D2:		
Rozetta	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
280C2:		
Fayette	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
280D2:		
Fayette	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
374A:		
Proctor, sandy substratum	Fair	
	Thickest layer	0.00
	Bottom layer	0.31
533:		
Urban land	Not rated	
567C2:		
Elkhart	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
618F:		
Senachwine	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
622C2:		
Wyanet	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
622D2:		
Wyanet	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
663A:		
Clare	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
683A:		
Lawndale	Fair	
	Thickest layer	0.00
	Bottom layer	0.09
684A:		
Broadwell	Fair	
	Thickest layer	0.00
	Bottom layer	0.09

Table 17a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of sand	
	Rating class	Value
684B:		
Broadwell	Fair	
	Thickest layer	0.00
	Bottom layer	0.09
684C2:		
Broadwell	Fair	
	Thickest layer	0.00
	Bottom layer	0.09
685B:		
Middletown	Fair	
	Thickest layer	0.00
	Bottom layer	0.09
685C2:		
Middletown	Fair	
	Thickest layer	0.00
	Bottom layer	0.09
685D2:		
Middletown	Fair	
	Thickest layer	0.00
	Bottom layer	0.09
705A:		
Buckhart	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
705B:		
Buckhart	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
712A:		
Spaulding	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
726A:		
Elburn, sandy substratum	Fair	
	Thickest layer	0.00
	Bottom layer	0.31
733C2:		
Birkbeck	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
Senachwine	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
733C3:		
Birkbeck	Poor	
	Bottom layer	0.00
	Thickest layer	0.00

Table 17a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of sand	
	Rating class	Value
733C3:		
Senachwine	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
736D2:		
Senachwine	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
Russell	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
737A:		
Tama, very deep to sand	Fair	
	Thickest layer	0.00
	Bottom layer	0.10
737B:		
Tama, very deep to sand	Fair	
	Thickest layer	0.00
	Bottom layer	0.15
737C2:		
Tama, very deep to sand	Fair	
	Thickest layer	0.00
	Bottom layer	0.10
748A:		
Plano, sandy substratum	Fair	
	Thickest layer	0.00
	Bottom layer	0.31
748B:		
Plano, sandy substratum	Fair	
	Thickest layer	0.00
	Bottom layer	0.31
748C2:		
Plano, sandy substratum	Fair	
	Thickest layer	0.00
	Bottom layer	0.31
749B:		
Buckhart, till substratum	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
802B:		
Orthents, loamy	Poor	
	Bottom layer	0.00
	Thickest layer	0.00

Table 17a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of sand	
	Rating class	Value
802E:		
Orthents, loamy-----	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
827A:		
Broadwell-----------	Fair	
	Thickest layer	0.00
	Bottom layer	0.09
Onarga--------------	Fair	
	Thickest layer	0.00
	Bottom layer	0.08
827B:		
Broadwell-----------	Fair	
	Thickest layer	0.00
	Bottom layer	0.09
Onarga--------------	Fair	
	Thickest layer	0.00
	Bottom layer	0.08
827B2:		
Broadwell-----------	Fair	
	Thickest layer	0.00
	Bottom layer	0.09
Onarga--------------	Fair	
	Thickest layer	0.00
	Bottom layer	0.08
828D2:		
Broadwell-----------	Fair	
	Thickest layer	0.00
	Bottom layer	0.09
Sparta--------------	Fair	
	Thickest layer	0.15
	Bottom layer	0.76
830:		
Landfills-----------	Not rated	
861B2:		
Princeton-----------	Fair	
	Thickest layer	0.01
	Bottom layer	0.11
Bloomfield----------	Fair	
	Bottom layer	0.12
	Thickest layer	0.26
861D2:		
Princeton-----------	Fair	
	Thickest layer	0.02
	Bottom layer	0.11
Bloomfield----------	Fair	
	Bottom layer	0.12
	Thickest layer	0.26

Table 17a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of sand	
	Rating class	Value
861F:		
Princeton	Fair	
	Thickest layer	0.01
	Bottom layer	0.11
Bloomfield	Fair	
	Bottom layer	0.12
	Thickest layer	0.26
864:		
Pits, quarries	Not rated	
865:		
Pits, gravel	Not rated	
871B:		
Lenzburg	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
871D:		
Lenzburg	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
898F2:		
Hickory	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
Sylvan	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
965C2:		
Tallula	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
Bold	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
965D2:		
Tallula	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
Bold	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
3073A:		
Ross	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
3074A:		
Radford	Poor	
	Bottom layer	0.00
	Thickest layer	0.00

Table 17a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of sand	
	Rating class	Value
3077A:		
Huntsville	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
3107+:		
Sawmill	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
3107A:		
Sawmill	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
3107S:		
Sawmill, sandy substratum	Fair	
	Thickest layer	0.00
	Bottom layer	0.09
3284A:		
Tice	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
3284S:		
Tice, sandy substratum	Fair	
	Thickest layer	0.00
	Bottom layer	0.09
3304A:		
Landes	Fair	
	Thickest layer	0.00
	Bottom layer	0.05
3405A:		
Zook	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
3408A:		
Aquents, loamy	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
3451A:		
Lawson	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
7148A:		
Proctor	Fair	
	Thickest layer	0.00
	Bottom layer	0.05
7191A:		
Knight	Poor	
	Bottom layer	0.00
	Thickest layer	0.00

Table 17a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of sand	
	Rating class	Value
7198A:		
Elburn	Fair	
	Thickest layer	0.00
	Bottom layer	0.05
7199A:		
Plano	Poor	
	Thickest layer	0.00
	Bottom layer	0.00
7304A:		
Landes	Fair	
	Thickest layer	0.00
	Bottom layer	0.76
8074A:		
Radford	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
8107+:		
Sawmill	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
8107A:		
Sawmill	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
8284A:		
Tice	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
8451A:		
Lawson	Poor	
	Bottom layer	0.00
	Thickest layer	0.00
8452A:		
Riley	Fair	
	Thickest layer	0.00
	Bottom layer	0.26

Table 17b.--Construction Materials

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 0.99. The smaller the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value
16A:				
Rushville	Poor		Poor	
	Wetness	0.00	Wetness	0.00
	Low strength	0.00	Too clayey	0.01
	Shrink-swell	0.49		
17A:				
Keomah	Poor		Fair	
	Low strength	0.00	Wetness	0.04
	Wetness	0.04	Too clayey	0.05
	Shrink-swell	0.89		
27D2:				
Miami	Fair		Fair	
	Wetness	0.53	Slope	0.04
			Hard to reclaim (dense layer)	0.35
			Wetness	0.53
36A:				
Tama	Poor		Fair	
	Low strength	0.00	Too clayey	0.64
	Shrink-swell	0.87		
36B:				
Tama	Poor		Fair	
	Low strength	0.00	Too clayey	0.64
	Shrink-swell	0.87		
36C2:				
Tama	Poor		Fair	
	Low strength	0.00	Too clayey	0.64
	Shrink-swell	0.87		
36D2:				
Tama	Poor		Fair	
	Low strength	0.00	Slope	0.04
	Shrink-swell	0.87	Too clayey	0.64
43A:				
Ipava	Poor		Fair	
	Low strength	0.00	Too clayey	0.14
	Wetness	0.14	Wetness	0.14
	Shrink-swell	0.83		
45A:				
Denny	Poor		Poor	
	Wetness	0.00	Wetness	0.00
	Low strength	0.00	Too clayey	0.01
	Shrink-swell	0.69		

Table 17b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value
67A:				
Harpster	Poor		Poor	
	Wetness	0.00	Wetness	0.00
	Low strength	0.00	Too clayey	0.72
	Shrink-swell	0.99	Carbonate content	0.96
68A:				
Sable	Poor		Poor	
	Wetness	0.00	Wetness	0.00
	Low strength	0.00	Too clayey	0.92
	Shrink-swell	0.99		
86B:				
Osco	Poor		Fair	
	Low strength	0.00	Too clayey	0.64
	Shrink-swell	0.87		
86C2:				
Osco	Poor		Fair	
	Low strength	0.00	Too clayey	0.64
	Shrink-swell	0.87		
134C2:				
Camden	Good		Fair	
			Too clayey	0.49
134C3:				
Camden	Good		Fair	
			Too clayey	0.49
138A:				
Shiloh	Poor		Poor	
	Wetness	0.00	Wetness	0.00
	Low strength	0.00	Too clayey	0.18
	Shrink-swell	0.12		
148B:				
Proctor	Good		Fair	
			Too clayey	0.81
148C2:				
Proctor	Good		Fair	
			Too clayey	0.72
148D2:				
Proctor	Good		Fair	
			Slope	0.04
			Too clayey	0.72
149A:				
Brenton	Fair		Fair	
	Wetness	0.14	Wetness	0.14
			Too clayey	0.64
152A:				
Drummer	Poor		Poor	
	Wetness	0.00	Wetness	0.00
	Low strength	0.00	Too clayey	0.86
	Shrink-swell	0.99		

Table 17b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value
159B:				
Pillot	Good		Fair	
			Too clayey	0.64
159C2:				
Pillot	Good		Fair	
			Too clayey	0.64
171B:				
Catlin	Poor		Fair	
	Low strength	0.00	Too clayey	0.64
	Wetness	0.95	Wetness	0.95
	Shrink-swell	0.98		
171C2:				
Catlin	Poor		Fair	
	Low strength	0.00	Too clayey	0.70
	Shrink-swell	0.87	Wetness	0.95
	Wetness	0.95		
171D2:				
Catlin	Poor		Fair	
	Low strength	0.00	Slope	0.04
	Shrink-swell	0.87	Too clayey	0.84
	Wetness	0.95	Wetness	0.95
191A:				
Knight	Poor		Poor	
	Wetness	0.00	Wetness	0.00
	Low strength	0.00	Too clayey	0.57
	Shrink-swell	0.97		
198A:				
Elburn	Poor		Fair	
	Low strength	0.00	Wetness	0.14
	Wetness	0.14	Too clayey	0.81
	Shrink-swell	0.99		
199A:				
Plano	Poor		Fair	
	Low strength	0.00	Too clayey	0.67
	Shrink-swell	0.98		
199B:				
Plano	Poor		Fair	
	Low strength	0.00	Too clayey	0.67
	Shrink-swell	0.99		
199C2:				
Plano	Poor		Fair	
	Low strength	0.00	Too clayey	0.67
	Shrink-swell	0.99		
206A:				
Thorp	Poor		Poor	
	Wetness	0.00	Wetness	0.00
	Low strength	0.00	Too clayey	0.57
	Shrink-swell	0.99		

Table 17b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value
212C2:				
Thebes	Good		Fair	
			Too clayey	0.57
233B:				
Birkbeck	Poor		Fair	
	Low strength	0.00	Too clayey	0.49
	Shrink-swell	0.78	Wetness	0.89
	Wetness	0.89	Too acid	0.98
233C2:				
Birkbeck	Poor		Fair	
	Low strength	0.00	Too clayey	0.52
	Wetness	0.59	Wetness	0.59
	Shrink-swell	0.97	Too acid	0.98
243A:				
St. Charles	Poor		Fair	
	Low strength	0.00	Too clayey	0.57
	Shrink-swell	0.95		
243B:				
St. Charles	Poor		Fair	
	Low strength	0.00	Too clayey	0.57
	Shrink-swell	0.95		
243C2:				
St. Charles	Poor		Fair	
	Low strength	0.00	Too clayey	0.57
	Shrink-swell	0.99		
244A:				
Hartsburg	Poor		Poor	
	Wetness	0.00	Wetness	0.00
	Low strength	0.00	Too clayey	0.82
257A:				
Clarksdale	Poor		Fair	
	Low strength	0.00	Too clayey	0.01
	Wetness	0.04	Wetness	0.04
	Shrink-swell	0.50		
272A:				
Edgington	Poor		Poor	
	Wetness	0.00	Wetness	0.00
	Low strength	0.00		
279A:				
Rozetta	Poor		Fair	
	Low strength	0.00	Too clayey	0.60
	Shrink-swell	0.96		
279B:				
Rozetta	Poor		Fair	
	Low strength	0.00	Too clayey	0.57
	Shrink-swell	0.92		

Table 17b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value
279B2:				
Rozetta	Poor		Fair	
	Low strength	0.00	Too clayey	0.60
	Shrink-swell	0.93	Wetness	0.98
	Wetness	0.98		
279C2:				
Rozetta	Poor		Fair	
	Low strength	0.00	Too clayey	0.60
	Shrink-swell	0.90		
279C3:				
Rozetta	Poor		Fair	
	Low strength	0.00	Too clayey	0.60
279D2:				
Rozetta	Poor		Fair	
	Low strength	0.00	Slope	0.04
	Shrink-swell	0.96	Too clayey	0.60
280C2:				
Fayette	Poor		Fair	
	Low strength	0.00	Too clayey	0.57
	Shrink-swell	0.87		
280D2:				
Fayette	Poor		Fair	
	Low strength	0.00	Slope	0.04
	Shrink-swell	0.87	Too clayey	0.57
374A:				
Proctor, sandy substratum	Good		Good	
533:				
Urban land	Not rated		Not rated	
567C2:				
Elkhart	Poor		Fair	
	Low strength	0.00	Too clayey	0.64
618F:				
Senachwine	Poor		Poor	
	Slope	0.00	Slope	0.00
			Hard to reclaim (dense layer)	0.00
			Too clayey	0.55
622C2:				
Wyanet	Good		Fair	
			Too clayey	0.70
			Hard to reclaim (dense layer)	0.84
622D2:				
Wyanet	Good		Fair	
			Slope	0.04
			Too clayey	0.70
			Hard to reclaim (dense layer)	0.84

Table 17b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value
663A:				
Clare	Fair		Fair	
	Wetness	0.89	Too clayey	0.57
	Shrink-swell	0.99	Wetness	0.89
683A:				
Lawndale	Fair		Fair	
	Wetness	0.14	Wetness	0.14
			Too clayey	0.64
684A:				
Broadwell	Poor		Fair	
	Low strength	0.00	Too clayey	0.64
	Shrink-swell	0.98		
684B:				
Broadwell	Poor		Fair	
	Low strength	0.00	Too clayey	0.64
	Shrink-swell	0.98		
684C2:				
Broadwell	Poor		Fair	
	Low strength	0.00	Too clayey	0.64
	Shrink-swell	0.97		
685B:				
Middletown	Poor		Fair	
	Low strength	0.00	Too clayey	0.57
	Shrink-swell	0.99		
685C2:				
Middletown	Poor		Fair	
	Low strength	0.00	Too clayey	0.57
	Shrink-swell	0.97		
685D2:				
Middletown	Poor		Fair	
	Low strength	0.00	Slope	0.04
	Shrink-swell	0.97	Too clayey	0.57
705A:				
Buckhart	Poor		Fair	
	Low strength	0.00	Wetness	0.98
	Shrink-swell	0.87		
	Wetness	0.98		
705B:				
Buckhart	Poor		Fair	
	Low strength	0.00	Too clayey	0.67
	Shrink-swell	0.87	Wetness	0.98
	Wetness	0.98		
712A:				
Spaulding	Poor		Poor	
	Wetness	0.00	Wetness	0.00
	Low strength	0.00	Carbonate content	0.73
	Shrink-swell	0.98	Too clayey	0.98

Table 17b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value
726A:				
Elburn, sandy substratum	Fair		Fair	
	Wetness	0.18	Wetness	0.18
	Shrink-swell	0.99	Too clayey	0.81
733C2:				
Birkbeck	Poor		Fair	
	Low strength	0.00	Wetness	0.59
	Wetness	0.59	Too clayey	0.63
	Shrink-swell	0.97		
Senachwine	Good		Fair	
			Too clayey	0.57
			Hard to reclaim (dense layer)	0.84
733C3:				
Birkbeck	Poor		Fair	
	Low strength	0.00	Too clayey	0.52
	Wetness	0.59	Wetness	0.59
	Shrink-swell	0.97		
Senachwine	Good		Poor	
			Hard to reclaim (dense layer)	0.00
			Too clayey	0.55
736D2:				
Senachwine	Good		Fair	
			Slope	0.04
			Too clayey	0.55
			Hard to reclaim (dense layer)	0.84
Russell	Poor		Fair	
	Low strength	0.00	Slope	0.04
	Shrink-swell	0.96	Too clayey	0.57
737A:				
Tama, very deep to sand	Poor		Fair	
	Low strength	0.00	Too clayey	0.64
	Shrink-swell	0.93		
737B:				
Tama, very deep to sand	Poor		Fair	
	Low strength	0.00	Too clayey	0.64
	Shrink-swell	0.93		
737C2:				
Tama, very deep to sand	Poor		Fair	
	Low strength	0.00	Too clayey	0.64
	Shrink-swell	0.87		

Table 17b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value
748A:				
Plano, sandy substratum	Poor		Fair	
	Low strength	0.00	Too clayey	0.72
	Shrink-swell	0.99		
748B:				
Plano, sandy substratum	Fair		Fair	
	Shrink-swell	0.99	Too clayey	0.72
748C2:				
Plano, sandy substratum	Fair		Fair	
	Shrink-swell	0.99	Too clayey	0.66
749B:				
Buckhart, till substratum	Poor		Fair	
	Low strength	0.00	Too clayey	0.67
	Shrink-swell	0.87	Wetness	0.98
	Wetness	0.98		
802B:				
Orthents, loamy	Poor		Good	
	Low strength	0.00		
	Shrink-swell	0.87		
802E:				
Orthents, loamy	Poor		Poor	
	Low strength	0.00	Slope	0.00
	Slope	0.32		
	Shrink-swell	0.87		
827A:				
Broadwell	Poor		Fair	
	Low strength	0.00	Too clayey	0.64
	Shrink-swell	0.98		
Onarga	Good		Good	
827B:				
Broadwell	Poor		Fair	
	Low strength	0.00	Too clayey	0.64
	Shrink-swell	0.98		
Onarga	Good		Good	
827B2:				
Broadwell	Poor		Fair	
	Low strength	0.00	Too clayey	0.64
	Shrink-swell	0.95		
Onarga	Good		Good	
828D2:				
Broadwell	Poor		Fair	
	Low strength	0.00	Slope	0.63
	Shrink-swell	0.95	Too clayey	0.64

Table 17b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value
828D2:				
Sparta	Good		Poor	
			Too sandy	0.00
			Slope	0.63
830:				
Landfills	Not rated		Not rated	
861B2:				
Princeton	Good		Good	
Bloomfield	Good		Poor	
			Too sandy	0.00
861D2:				
Princeton	Good		Fair	
			Slope	0.63
Bloomfield	Good		Poor	
			Too sandy	0.00
			Slope	0.63
861F:				
Princeton	Poor		Poor	
	Slope	0.00	Slope	0.00
Bloomfield	Poor		Poor	
	Slope	0.00	Slope	0.00
			Too sandy	0.00
864:				
Pits, quarries	Not rated		Not rated	
865:				
Pits, gravel	Not rated		Not rated	
871B:				
Lenzburg	Poor		Fair	
	Low strength	0.00	Rock fragments	0.72
	Shrink-swell	0.87	Hard to reclaim (rock fragments)	0.88
871D:				
Lenzburg	Poor		Fair	
	Low strength	0.00	Slope	0.04
	Shrink-swell	0.87	Rock fragments	0.72
			Hard to reclaim (rock fragments)	0.88
898F2:				
Hickory	Poor		Poor	
	Slope	0.00	Slope	0.00
	Low strength	0.00	Too clayey	0.57
	Shrink-swell	0.97	Rock fragments	0.88
Sylvan	Poor		Poor	
	Slope	0.00	Slope	0.00
	Low strength	0.00	Too clayey	0.57

Table 17b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value
965C2:				
Tallula	Fair		Good	
	Low strength	0.78		
Bold	Poor		Fair	
	Low strength	0.00	Carbonate content	0.39
965D2:				
Tallula	Fair		Fair	
	Low strength	0.78	Slope	0.04
Bold	Poor		Fair	
	Low strength	0.00	Slope	0.04
			Carbonate content	0.39
3073A:				
Ross	Good		Good	
3074A:				
Radford	Poor		Fair	
	Low strength	0.00	Wetness	0.14
	Wetness	0.14		
3077A:				
Huntsville	Poor		Good	
	Low strength	0.00		
3107+:				
Sawmill	Poor		Poor	
	Wetness	0.00	Wetness	0.00
	Low strength	0.00	Too clayey	0.93
	Shrink-swell	0.89		
3107A:				
Sawmill	Poor		Poor	
	Wetness	0.00	Wetness	0.00
	Low strength	0.00	Too clayey	0.98
	Shrink-swell	0.87		
3107S:				
Sawmill, sandy substratum	Poor		Poor	
	Wetness	0.00	Wetness	0.00
	Low strength	0.00	Too clayey	0.98
	Shrink-swell	0.89		
3284A:				
Tice	Poor		Fair	
	Low strength	0.00	Wetness	0.14
	Wetness	0.14	Too clayey	0.64
	Shrink-swell	0.87		
3284S:				
Tice, sandy substratum	Poor		Fair	
	Low strength	0.00	Wetness	0.14
	Wetness	0.14	Too clayey	0.98
	Shrink-swell	0.89		

Table 17b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value
3304A:				
Landes	Good		Good	
3405A:				
Zook	Poor		Poor	
	Wetness	0.00	Wetness	0.00
	Low strength	0.00	Too clayey	0.00
	Shrink-swell	0.16		
3408A:				
Aquents, loamy	Poor		Poor	
	Wetness	0.00	Wetness	0.00
	Low strength	0.00		
3451A:				
Lawson	Poor		Fair	
	Low strength	0.00	Wetness	0.14
	Wetness	0.14		
7148A:				
Proctor	Good		Fair	
			Too clayey	0.67
7191A:				
Knight	Poor		Poor	
	Wetness	0.00	Wetness	0.00
	Low strength	0.00	Too clayey	0.98
	Shrink-swell	0.98		
7198A:				
Elburn	Poor		Fair	
	Low strength	0.00	Wetness	0.14
	Wetness	0.14	Too clayey	0.81
	Shrink-swell	0.99		
7199A:				
Plano	Poor		Fair	
	Low strength	0.00	Too clayey	0.67
	Shrink-swell	0.98		
7304A:				
Landes	Good		Good	
8074A:				
Radford	Poor		Fair	
	Low strength	0.00	Wetness	0.29
	Wetness	0.29		
	Shrink-swell	0.99		
8107+:				
Sawmill	Poor		Poor	
	Wetness	0.00	Wetness	0.00
	Low strength	0.00	Too clayey	0.93
	Shrink-swell	0.91		
8107A:				
Sawmill	Poor		Poor	
	Wetness	0.00	Wetness	0.00
	Low strength	0.00	Too clayey	0.98
	Shrink-swell	0.87		

Table 17b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value
8284A:				
Tice	Poor		Fair	
	Low strength	0.00	Wetness	0.14
	Wetness	0.14	Too clayey	0.64
	Shrink-swell	0.87		
8451A:				
Lawson	Fair		Fair	
	Wetness	0.14	Wetness	0.14
	Low strength	0.22		
8452A:				
Riley	Fair		Fair	
	Wetness	0.14	Wetness	0.14
			Too clayey	0.81

Table 18a.--Water Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
16A:						
Rushville	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.04	Depth to saturated zone	1.00	Slow refill	0.28
					Cutbanks cave	0.10
			Ponding	1.00		
			Piping	0.08		
17A:						
Keomah	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
					Cutbanks cave	0.10
			Piping	0.30		
27D2:						
Miami	Somewhat limited		Very limited		Very limited	
	Seepage	0.72	Depth to saturated zone	1.00	Depth to water	1.00
	Slope	0.02				
			Piping	0.97		
36A:						
Tama	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Piping	0.11	Depth to water	1.00
36B:						
Tama	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Piping	0.11	Depth to water	1.00
36C2:						
Tama	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Piping	0.03	Depth to water	1.00
36D2:						
Tama	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Piping	0.03	Depth to water	1.00
	Slope	0.02				
43A:						
Ipava	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
					Cutbanks cave	0.10
			Piping	0.08		
45A:						
Denny	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.04	Ponding	1.00	Slow refill	0.28
			Depth to saturated zone	1.00	Cutbanks cave	0.10
			Piping	0.16		
67A:						
Harpster	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.72	Ponding	1.00	Slow refill	0.28
			Depth to saturated zone	1.00	Cutbanks cave	0.10
			Piping	0.22		

Table 18a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
68A:						
Sable	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.72	Ponding	1.00	Slow refill	0.28
			Depth to saturated zone	1.00	Cutbanks cave	0.10
			Piping	0.31		
86B:						
Osco	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Piping	0.03	Depth to water	1.00
86C2:						
Osco	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Piping	0.01	Depth to water	1.00
134C2:						
Camden	Very limited		Very limited		Very limited	
	Seepage	1.00	Piping	0.99	Depth to water	1.00
			Seepage	0.08		
134C3:						
Camden	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Piping	0.97	Depth to water	1.00
			Seepage	0.08		
138A:						
Shiloh	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.04	Depth to saturated zone	1.00	Slow refill	0.96
			Ponding	1.00	Cutbanks cave	0.10
148B:						
Proctor	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Piping	0.58	Depth to water	1.00
148C2:						
Proctor	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Piping	0.35	Depth to water	1.00
148D2:						
Proctor	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Piping	0.35	Depth to water	1.00
	Slope	0.02				
149A:						
Brenton	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.72	Depth to saturated zone	1.00	Cutbanks cave	0.50
					Slow refill	0.28
			Piping	0.97		
152A:						
Drummer	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.72	Ponding	1.00	Slow refill	0.28
			Depth to saturated zone	1.00	Cutbanks cave	0.10
			Piping	0.43		
			Seepage	0.01		

Table 18a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
159B:						
Pillot	Very limited		Very limited		Very limited	
	Seepage	1.00	Piping	1.00	Depth to water	1.00
			Seepage	0.09		
159C2:						
Pillot	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Piping	0.96	Depth to water	1.00
			Seepage	0.09		
171B:						
Catlin	Somewhat limited		Somewhat limited		Somewhat limited	
	Seepage	0.72	Depth to saturated zone	0.75	Slow refill	0.28
					Depth to saturated zone	0.11
			Piping	0.51		
					Cutbanks cave	0.10
171C2:						
Catlin	Somewhat limited		Somewhat limited		Somewhat limited	
	Seepage	0.72	Depth to saturated zone	0.75	Slow refill	0.28
					Depth to saturated zone	0.11
			Piping	0.11		
					Cutbanks cave	0.10
171D2:						
Catlin	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Depth to saturated zone	0.75	Depth to water	1.00
	Slope	0.02				
			Piping	0.11		
191A:						
Knight	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
					Cutbanks cave	0.10
			Ponding	1.00		
			Piping	0.74		
198A:						
Elburn	Very limited		Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
			Piping	0.51		
			Seepage	0.05		
199A:						
Plano	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Piping	0.48	Depth to water	1.00
			Seepage	0.01		
199B:						
Plano	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Piping	0.96	Depth to water	1.00
			Seepage	0.01		
199C2:						
Plano	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Piping	0.32	Depth to water	1.00
			Seepage	0.01		

Table 18a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
206A:						
Thorp	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	0.10
			Ponding	1.00		
			Piping	0.36		
212C2:						
Thebes	Very limited		Very limited		Very limited	
	Seepage	1.00	Piping	1.00	Depth to water	1.00
			Seepage	0.07		
233B:						
Birkbeck	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Depth to saturated zone	0.86	Depth to water	1.00
			Piping	0.14		
233C2:						
Birkbeck	Somewhat limited		Very limited		Very limited	
	Seepage	0.72	Depth to saturated zone	0.99	Depth to water	1.00
			Piping	0.12		
243A:						
St. Charles	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Piping	0.63	Depth to water	1.00
243B:						
St. Charles	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Piping	0.63	Depth to water	1.00
243C2:						
St. Charles	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Piping	0.19	Depth to water	1.00
244A:						
Hartsburg	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.72	Ponding	1.00	Slow refill	0.28
			Depth to saturated zone	1.00	Cutbanks cave	0.10
			Piping	0.39		
257A:						
Clarksdale	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
					Cutbanks cave	0.10
272A:						
Edgington	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.72	Ponding	1.00	Slow refill	0.28
			Depth to saturated zone	1.00	Cutbanks cave	0.10
			Piping	0.68		
279A:						
Rozetta	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Piping	0.03	Depth to water	1.00

Table 18a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
279B:						
Rozetta	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Piping	0.01	Depth to water	1.00
279B2:						
Rozetta	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Depth to saturated zone	0.68	Depth to water	1.00
			Piping	0.31		
279C2:						
Rozetta	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Piping	0.03	Depth to water	1.00
					Slow refill	0.28
279C3:						
Rozetta	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Piping	0.10	Depth to water	1.00
279D2:						
Rozetta	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Piping	0.01	Depth to water	1.00
	Slope	0.02				
280C2:						
Fayette	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Piping	0.03	Depth to water	1.00
280D2:						
Fayette	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Piping	0.03	Depth to water	1.00
	Slope	0.02				
374A:						
Proctor, sandy substratum	Very limited		Very limited		Very limited	
	Seepage	1.00	Piping	1.00	Depth to water	1.00
			Seepage	0.31		
533:						
Urban land	Not rated		Not rated		Not rated	
567C2:						
Elkhart	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Piping	0.08	Depth to water	1.00
618F:						
Senachwine	Somewhat limited		Very limited		Very limited	
	Seepage	0.72	Piping	1.00	Depth to water	1.00
	Slope	0.36				
622C2:						
Wyanet	Somewhat limited		Very limited		Very limited	
	Seepage	0.72	Piping	1.00	Depth to water	1.00
622D2:						
Wyanet	Somewhat limited		Very limited		Very limited	
	Seepage	0.72	Piping	1.00	Depth to water	1.00
	Slope	0.02				

Table 18a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
663A:						
Clare	Somewhat limited		Somewhat limited		Somewhat limited	
	Seepage	0.72	Depth to saturated zone	0.86	Slow refill	0.28
					Cutbanks cave	0.10
			Piping	0.82	Depth to saturated zone	0.06
683A:						
Lawndale	Very limited		Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
			Piping	0.93		
			Seepage	0.09		
684A:						
Broadwell	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Piping	0.97	Depth to water	1.00
			Seepage	0.09		
684B:						
Broadwell	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Piping	0.97	Depth to water	1.00
			Seepage	0.09		
684C2:						
Broadwell	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Piping	0.43	Depth to water	1.00
			Seepage	0.09		
685B:						
Middletown	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Piping	0.82	Depth to water	1.00
			Seepage	0.09		
685C2:						
Middletown	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Piping	0.14	Depth to water	1.00
			Seepage	0.09		
685D2:						
Middletown	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Piping	0.14	Depth to water	1.00
	Slope	0.02	Seepage	0.09		
705A:						
Buckhart	Somewhat limited		Somewhat limited		Somewhat limited	
	Seepage	0.72	Depth to saturated zone	0.68	Slow refill	0.28
					Depth to saturated zone	0.14
			Piping	0.07		
					Cutbanks cave	0.10
705B:						
Buckhart	Somewhat limited		Somewhat limited		Somewhat limited	
	Seepage	0.72	Depth to saturated zone	0.68	Slow refill	0.28
					Depth to saturated zone	0.14
			Piping	0.07		
					Cutbanks cave	0.10

Table 18a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
712A:						
Spaulding	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
					Cutbanks cave	0.10
			Ponding	1.00		
			Piping	0.46		
726A:						
Elburn, sandy substratum	Very limited		Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
			Piping	1.00		
			Seepage	0.31		
733C2:						
Birkbeck	Somewhat limited		Very limited		Very limited	
	Seepage	0.72	Depth to saturated zone	0.99	Depth to water	1.00
			Piping	0.12		
Senachwine	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Piping	0.98	Depth to water	1.00
733C3:						
Birkbeck	Somewhat limited		Very limited		Very limited	
	Seepage	0.72	Depth to saturated zone	0.99	Depth to water	1.00
			Piping	0.12		
Senachwine	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Piping	0.95	Depth to water	1.00
736D2:						
Senachwine	Somewhat limited		Very limited		Very limited	
	Seepage	0.72	Piping	0.99	Depth to water	1.00
	Slope	0.02				
Russell	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Piping	0.48	Depth to water	1.00
	Slope	0.02				
737A:						
Tama, very deep to sand	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Piping	0.68	Depth to water	1.00
			Seepage	0.10		
737B:						
Tama, very deep to sand	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Piping	0.59	Depth to water	1.00
			Seepage	0.15		
737C2:						
Tama, very deep to sand	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Piping	0.62	Depth to water	1.00
			Seepage	0.10		

Table 18a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
748A:						
Plano, sandy substratum	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Piping	0.95	Depth to water	1.00
			Seepage	0.31		
748B:						
Plano, sandy substratum	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Piping	0.98	Depth to water	1.00
			Seepage	0.31		
748C2:						
Plano, sandy substratum	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Piping	0.97	Depth to water	1.00
			Seepage	0.31		
749B:						
Buckhart, till substratum	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Depth to saturated zone	0.68	Depth to water	1.00
			Piping	0.17		
802B:						
Orthents, loamy	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.04	Piping	0.50	Depth to water	1.00
802E:						
Orthents, loamy	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.15	Piping	0.50	Depth to water	1.00
	Seepage	0.04				
827A:						
Broadwell	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Piping	0.97	Depth to water	1.00
			Seepage	0.09		
Onarga	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.08	Depth to water	1.00
827B:						
Broadwell	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Piping	0.97	Depth to water	1.00
			Seepage	0.09		
Onarga	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.08	Depth to water	1.00
827B2:						
Broadwell	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Piping	0.82	Depth to water	1.00
			Seepage	0.09		
Onarga	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.08	Depth to water	1.00

Table 18a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
828D2:						
Broadwell	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Piping	0.82	Depth to water	1.00
	Slope	0.01	Seepage	0.09		
Sparta	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.76	Depth to water	1.00
	Slope	0.01				
830:						
Landfills	Not rated		Not rated		Not rated	
861B2:						
Princeton	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.11	Depth to water	1.00
Bloomfield	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.26	Depth to water	1.00
861D2:						
Princeton	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.11	Depth to water	1.00
	Slope	0.01				
Bloomfield	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.26	Depth to water	1.00
	Slope	0.01				
861F:						
Princeton	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.11	Depth to water	1.00
	Slope	0.28				
Bloomfield	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.26	Depth to water	1.00
	Slope	0.28				
864:						
Pits, quarries	Not rated		Not rated		Not rated	
865:						
Pits, gravel	Not rated		Not rated		Not rated	
871B:						
Lenzburg	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.04	Piping	0.15	Depth to water	1.00
871D:						
Lenzburg	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.04	Piping	0.11	Depth to water	1.00
	Slope	0.02				
898F2:						
Hickory	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Piping	0.05	Depth to water	1.00
	Slope	0.34				
Sylvan	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Piping	0.17	Depth to water	1.00
	Slope	0.34				

Table 18a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
965C2:						
Tallula	Somewhat limited		Very limited		Very limited	
	Seepage	0.72	Piping	1.00	Depth to water	1.00
Bold	Somewhat limited		Very limited		Very limited	
	Seepage	0.72	Piping	1.00	Depth to water	1.00
965D2:						
Tallula	Somewhat limited		Very limited		Very limited	
	Seepage	0.72	Piping	1.00	Depth to water	1.00
	Slope	0.02				
Bold	Somewhat limited		Very limited		Very limited	
	Seepage	0.72	Piping	1.00	Depth to water	1.00
	Slope	0.02				
3073A:						
Ross	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Piping	1.00	Depth to saturated zone	0.96
					Cutbanks cave	0.10
3074A:						
Radford	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
					Cutbanks cave	0.10
			Piping	0.34		
3077A:						
Huntsville	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.72	Piping	0.50	Depth to saturated zone	1.00
					Slow refill	0.28
					Cutbanks cave	0.10
3107+:						
Sawmill	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
					Cutbanks cave	0.10
			Piping	0.12		
3107A:						
Sawmill	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.72	Ponding	1.00	Slow refill	0.28
			Depth to saturated zone	1.00	Cutbanks cave	0.10
			Piping	0.02		
3107S:						
Sawmill, sandy substratum	Very limited		Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
			Ponding	1.00		
			Piping	0.50		
			Seepage	0.09		

Table 18a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3284A:						
Tice	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
					Cutbanks cave	0.10
			Piping	0.02		
3284S:						
Tice, sandy substratum	Very limited		Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
			Piping	0.23		
			Seepage	0.09		
3304A:						
Landes	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.05	Depth to water	1.00
3405A:						
Zook	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.02	Depth to saturated zone	1.00	Slow refill	0.96
					Cutbanks cave	0.10
			Ponding	1.00		
			Hard to pack	0.12		
3408A:						
Aquents, loamy	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.72	Ponding	1.00	Cutbanks cave	0.10
			Depth to saturated zone	1.00		
			Piping	0.85		
3451A:						
Lawson	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
					Cutbanks cave	0.10
			Piping	0.75		
7148A:						
Proctor	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Piping	0.57	Depth to water	1.00
			Seepage	0.05		
7191A:						
Knight	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
					Cutbanks cave	0.10
			Ponding	1.00		
			Piping	0.78		
7198A:						
Elburn	Very limited		Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
			Piping	0.51		
			Seepage	0.05		

Table 18a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
7199A:						
Plano	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Piping	0.69	Depth to water	1.00
			Seepage	0.01		
7304A:						
Landes	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Seepage	0.76	Depth to water	1.00
8074A:						
Radford	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
					Cutbanks cave	0.10
			Piping	0.57		
8107+:						
Sawmill	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
					Cutbanks cave	0.10
			Piping	0.01		
8107A:						
Sawmill	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.72	Ponding	1.00	Slow refill	0.28
			Depth to saturated zone	1.00	Cutbanks cave	0.10
			Piping	0.03		
8284A:						
Tice	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
					Cutbanks cave	0.10
8451A:						
Lawson	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
					Cutbanks cave	0.10
			Piping	1.00		
8452A:						
Riley	Very limited		Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
			Seepage	0.26		

Table 18b.--Water Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. Dashes in the tile drains column indicate that drainage is generally not needed. See text for further explanation of ratings in this table)

Map symbol and soil name	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
16A:						
Rushville	Not limited		Very limited		Very limited	
			Water erosion	1.00	Ponding	1.00
			Ponding	1.00	Depth to saturated zone	1.00
			Depth to saturated zone	1.00		
17A:						
Keomah	Not limited		Very limited		Very limited	
			Water erosion	1.00	Depth to saturated zone	1.00
			Depth to saturated zone	1.00		
27D2:						
Miami	Very limited		Very limited		Very limited	
	Slope	1.00	Water erosion	1.00	Depth to saturated zone	1.00
			Slope	1.00	Slope	0.96
			Depth to saturated zone	1.00		
36A:						
Tama	Not limited		Very limited		---	
			Water erosion	1.00		
36B:						
Tama	Somewhat limited		Very limited		---	
	Slope	0.26	Water erosion	1.00		
			Slope	0.26		
36C2:						
Tama	Somewhat limited		Very limited		---	
	Slope	0.99	Water erosion	1.00		
			Slope	0.99		
36D2:						
Tama	Very limited		Very limited		---	
	Slope	1.00	Water erosion	1.00		
			Slope	1.00		
43A:						
Ipava	Not limited		Very limited		Very limited	
			Water erosion	1.00	Depth to saturated zone	1.00
			Depth to saturated zone	1.00		
45A:						
Denny	Not limited		Very limited		Very limited	
			Water erosion	1.00	Ponding	1.00
			Ponding	1.00	Depth to saturated zone	1.00
			Depth to saturated zone	1.00		

Table 18b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
67A:						
Harpster	Not limited		Very limited		Very limited	
			Water erosion	1.00	Ponding	1.00
			Ponding	1.00	Depth to saturated zone	1.00
			Depth to saturated zone	1.00		
68A:						
Sable	Not limited		Very limited		Very limited	
			Water erosion	1.00	Ponding	1.00
			Ponding	1.00	Depth to saturated zone	1.00
			Depth to saturated zone	1.00		
86B:						
Osco	Somewhat limited		Very limited		---	
	Slope	0.26	Water erosion	1.00		
			Slope	0.26		
86C2:						
Osco	Somewhat limited		Very limited		---	
	Slope	0.99	Water erosion	1.00		
			Slope	0.99		
134C2:						
Camden	Somewhat limited		Very limited		---	
	Slope	0.99	Water erosion	1.00		
			Slope	0.99		
134C3:						
Camden	Somewhat limited		Very limited		---	
	Slope	0.99	Water erosion	1.00		
			Slope	0.99		
138A:						
Shiloh	Not limited		Very limited		Very limited	
			Ponding	1.00	Ponding	1.00
			Depth to saturated zone	1.00	Depth to saturated zone	1.00
			Water erosion	0.12		
148B:						
Proctor	Somewhat limited		Very limited		---	
	Slope	0.26	Water erosion	1.00		
			Slope	0.26		
148C2:						
Proctor	Somewhat limited		Very limited		---	
	Slope	0.99	Water erosion	1.00		
			Slope	0.99		
148D2:						
Proctor	Very limited		Very limited		---	
	Slope	1.00	Water erosion	1.00		
			Slope	1.00		
149A:						
Brenton	Not limited		Very limited		Very limited	
			Water erosion	1.00	Depth to saturated zone	1.00
			Depth to saturated zone	1.00	Cutbanks cave	0.50

Table 18b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
152A:						
Drummer	Not limited		Very limited		Very limited	
			Water erosion	1.00	Ponding	1.00
			Ponding	1.00	Depth to saturated zone	1.00
			Depth to saturated zone	1.00		
159B:						
Pillot	Somewhat limited		Very limited		---	
	Slope	0.26	Water erosion	1.00		
			Slope	0.26		
159C2:						
Pillot	Somewhat limited		Very limited		---	
	Slope	0.99	Water erosion	1.00		
			Slope	0.99		
171B:						
Catlin	Somewhat limited		Very limited		Somewhat limited	
	Slope	0.16	Water erosion	1.00	Depth to saturated zone	0.99
			Depth to saturated zone	1.00		
			Slope	0.16		
171C2:						
Catlin	Somewhat limited		Very limited		Somewhat limited	
	Slope	0.99	Water erosion	1.00	Depth to saturated zone	0.99
			Depth to saturated zone	1.00		
			Slope	0.99		
171D2:						
Catlin	Very limited		Very limited		Somewhat limited	
	Slope	1.00	Water erosion	1.00	Depth to saturated zone	0.99
			Slope	1.00	Slope	0.96
			Depth to saturated zone	1.00		
191A:						
Knight	Not limited		Very limited		Very limited	
			Water erosion	1.00	Ponding	1.00
			Ponding	1.00	Depth to saturated zone	1.00
			Depth to saturated zone	1.00		
198A:						
Elburn	Not limited		Very limited		Very limited	
			Water erosion	1.00	Depth to saturated zone	1.00
			Depth to saturated zone	1.00	Cutbanks cave	1.00
199A:						
Plano	Not limited		Very limited		---	
			Water erosion	1.00		
199B:						
Plano	Somewhat limited		Very limited		---	
	Slope	0.26	Water erosion	1.00		
			Slope	0.26		

Table 18b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
199C2:						
Plano	Somewhat limited		Very limited		---	
	Slope	0.99	Water erosion	1.00		
			Slope	0.99		
206A:						
Thorp	Not limited		Very limited		Very limited	
			Water erosion	1.00	Ponding	1.00
			Ponding	1.00	Depth to saturated zone	1.00
			Depth to saturated zone	1.00		
212C2:						
Thebes	Somewhat limited		Very limited		---	
	Slope	0.99	Water erosion	1.00		
			Slope	0.99		
233B:						
Birkbeck	Somewhat limited		Very limited		Somewhat limited	
	Slope	0.26	Water erosion	1.00	Depth to saturated zone	0.99
			Depth to saturated zone	1.00		
			Slope	0.26		
233C2:						
Birkbeck	Somewhat limited		Very limited		Very limited	
	Slope	0.99	Water erosion	1.00	Depth to saturated zone	1.00
			Depth to saturated zone	1.00		
			Slope	0.99		
243A:						
St. Charles	Not limited		Very limited		---	
			Water erosion	1.00		
243B:						
St. Charles	Somewhat limited		Very limited		---	
	Slope	0.26	Water erosion	1.00		
			Slope	0.26		
243C2:						
St. Charles	Somewhat limited		Very limited		---	
	Slope	0.99	Water erosion	1.00		
			Slope	0.99		
244A:						
Hartsburg	Not limited		Very limited		Very limited	
			Water erosion	1.00	Ponding	1.00
			Ponding	1.00	Depth to saturated zone	1.00
			Depth to saturated zone	1.00		
257A:						
Clarksdale	Not limited		Very limited		Very limited	
			Water erosion	1.00	Depth to saturated zone	1.00
			Depth to saturated zone	1.00		

Table 18b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
272A:						
Edgington	Not limited		Very limited		Very limited	
			Water erosion	1.00	Ponding	1.00
			Ponding	1.00	Depth to saturated zone	1.00
			Depth to saturated zone	1.00		
279A:						
Rozetta	Not limited		Very limited		---	
			Water erosion	1.00		
279B:						
Rozetta	Somewhat limited		Very limited		---	
	Slope	0.26	Water erosion	1.00		
			Slope	0.26		
279B2:						
Rozetta	Somewhat limited		Very limited		Somewhat limited	
	Slope	0.16	Water erosion	1.00	Depth to saturated zone	0.99
			Depth to saturated zone	1.00		
			Slope	0.16		
279C2:						
Rozetta	Somewhat limited		Very limited		---	
	Slope	0.99	Water erosion	1.00		
			Slope	0.99		
279C3:						
Rozetta	Somewhat limited		Very limited		---	
	Slope	0.99	Water erosion	1.00		
			Slope	0.99		
279D2:						
Rozetta	Very limited		Very limited		---	
	Slope	1.00	Water erosion	1.00		
			Slope	1.00		
280C2:						
Fayette	Somewhat limited		Very limited		---	
	Slope	0.99	Water erosion	1.00		
			Slope	0.99		
280D2:						
Fayette	Very limited		Very limited		---	
	Slope	1.00	Water erosion	1.00		
			Slope	1.00		
374A:						
Proctor, sandy substratum	Not limited		Very limited		---	
			Water erosion	1.00		
533:						
Urban land	Not rated		Not rated		Not rated	
567C2:						
Elkhart	Somewhat limited		Very limited		---	
	Slope	0.99	Water erosion	1.00		
			Slope	0.99		

Table 18b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
618F:						
Senachwine	Very limited		Very limited		---	
	Slope	1.00	Water erosion	1.00		
			Slope	1.00		
622C2:						
Wyanet	Somewhat limited		Somewhat limited		---	
	Slope	0.99	Slope	0.99		
			Water erosion	0.88		
622D2:						
Wyanet	Very limited		Very limited		---	
	Slope	1.00	Slope	1.00		
			Water erosion	0.88		
663A:						
Clare	Not limited		Very limited		Somewhat limited	
			Water erosion	1.00	Depth to saturated zone	0.99
			Depth to saturated zone	1.00		
683A:						
Lawndale	Not limited		Very limited		Very limited	
			Water erosion	1.00	Depth to saturated zone	1.00
			Depth to saturated zone	1.00	Cutbanks cave	1.00
684A:						
Broadwell	Not limited		Very limited		---	
			Water erosion	1.00		
684B:						
Broadwell	Somewhat limited		Very limited		---	
	Slope	0.26	Water erosion	1.00		
			Slope	0.26		
684C2:						
Broadwell	Somewhat limited		Very limited		---	
	Slope	0.99	Water erosion	1.00		
			Slope	0.99		
685B:						
Middletown	Somewhat limited		Very limited		---	
	Slope	0.26	Water erosion	1.00		
			Slope	0.26		
685C2:						
Middletown	Somewhat limited		Very limited		---	
	Slope	0.99	Water erosion	1.00		
			Slope	0.99		
685D2:						
Middletown	Very limited		Very limited		---	
	Slope	1.00	Water erosion	1.00		
			Slope	1.00		
705A:						
Buckhart	Not limited		Very limited		Somewhat limited	
			Water erosion	1.00	Depth to saturated zone	0.99
			Depth to saturated zone	1.00		

Table 18b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
705B:						
Buckhart	Somewhat limited		Very limited		Somewhat limited	
	Slope	0.26	Water erosion	1.00	Depth to saturated zone	0.99
			Depth to saturated zone	1.00		
			Slope	0.26		
712A:						
Spaulding	Not limited		Very limited		Very limited	
			Water erosion	1.00	Ponding	1.00
			Ponding	1.00	Depth to saturated zone	1.00
			Depth to saturated zone	1.00		
726A:						
Elburn, sandy substratum	Not limited		Very limited		Very limited	
			Water erosion	1.00	Depth to saturated zone	1.00
			Depth to saturated zone	1.00	Cutbanks cave	1.00
733C2:						
Birkbeck	Somewhat limited		Very limited		Very limited	
	Slope	0.99	Water erosion	1.00	Depth to saturated zone	1.00
			Depth to saturated zone	1.00		
			Slope	0.99		
Senachwine	Somewhat limited		Somewhat limited		---	
	Slope	0.99	Slope	0.99		
			Water erosion	0.88		
733C3:						
Birkbeck	Somewhat limited		Very limited		Very limited	
	Slope	0.99	Water erosion	1.00	Depth to saturated zone	1.00
			Depth to saturated zone	1.00		
			Slope	0.99		
Senachwine	Somewhat limited		Somewhat limited		---	
	Slope	0.99	Slope	0.99		
			Water erosion	0.88		
736D2:						
Senachwine	Very limited		Very limited		---	
	Slope	1.00	Slope	1.00		
			Water erosion	0.88		
Russell	Very limited		Very limited		---	
	Slope	1.00	Water erosion	1.00		
			Slope	1.00		
737A:						
Tama, very deep to sand	Not limited		Very limited		---	
			Water erosion	1.00		

Table 18b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
737B:						
Tama, very deep to sand	Somewhat limited		Very limited		---	
	Slope	0.26	Water erosion	1.00		
			Slope	0.26		
737C2:						
Tama, very deep to sand	Somewhat limited		Very limited		---	
	Slope	0.99	Water erosion	1.00		
			Slope	0.99		
748A:						
Plano, sandy substratum	Not limited		Very limited		---	
			Water erosion	1.00		
748B:						
Plano, sandy substratum	Somewhat limited		Very limited		---	
	Slope	0.16	Water erosion	1.00		
			Slope	0.16		
748C2:						
Plano, sandy substratum	Somewhat limited		Very limited		---	
	Slope	0.99	Water erosion	1.00		
			Slope	0.99		
749B:						
Buckhart, till substratum	Somewhat limited		Very limited		Somewhat limited	
	Slope	0.26	Water erosion	1.00	Depth to saturated zone	0.99
			Depth to saturated zone	1.00		
			Slope	0.26		
802B:						
Orthents, loamy	Somewhat limited		Very limited		---	
	Slope	0.37	Water erosion	1.00		
			Slope	0.37		
802E:						
Orthents, loamy	Very limited		Very limited		---	
	Slope	1.00	Water erosion	1.00		
			Slope	1.00		
827A:						
Broadwell	Not limited		Very limited		---	
			Water erosion	1.00		
Onarga	Not limited		Very limited		---	
			Too sandy	1.00		
			Water erosion	0.12		
827B:						
Broadwell	Somewhat limited		Very limited		---	
	Slope	0.26	Water erosion	1.00		
			Slope	0.26		

Table 18b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
827B:						
Onarga	Somewhat limited		Very limited		---	
	Slope	0.26	Too sandy	1.00		
			Slope	0.26		
			Water erosion	0.12		
827B2:						
Broadwell	Somewhat limited		Very limited		---	
	Slope	0.26	Water erosion	1.00		
			Slope	0.26		
Onarga	Somewhat limited		Very limited		---	
	Slope	0.26	Too sandy	1.00		
			Slope	0.26		
			Water erosion	0.12		
828D2:						
Broadwell	Very limited		Very limited		---	
	Slope	1.00	Water erosion	1.00		
			Slope	1.00		
Sparta	Very limited		Very limited		---	
	Slope	1.00	Too sandy	1.00		
			Slope	1.00		
830:						
Landfills	Not rated		Not rated		Not rated	
861B2:						
Princeton	Somewhat limited		Somewhat limited		---	
	Slope	0.37	Water erosion	0.88		
			Slope	0.37		
Bloomfield	Somewhat limited		Somewhat limited		---	
	Slope	0.37	Slope	0.37		
861D2:						
Princeton	Very limited		Very limited		---	
	Slope	1.00	Slope	1.00		
			Water erosion	0.88		
Bloomfield	Very limited		Very limited		---	
	Slope	1.00	Slope	1.00		
861F:						
Princeton	Very limited		Very limited		---	
	Slope	1.00	Slope	1.00		
			Water erosion	0.88		
Bloomfield	Very limited		Very limited		---	
	Slope	1.00	Slope	1.00		
864:						
Pits, quarries	Not rated		Not rated		Not rated	
865:						
Pits, gravel	Not rated		Not rated		Not rated	

Table 18b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
871B:						
Lenzburg	Somewhat limited		Very limited		---	
	Slope	0.37	Water erosion	1.00		
	Content of large stones	0.10	Slope	0.37		
			Content of large stones	0.10		
871D:						
Lenzburg	Very limited		Very limited		---	
	Slope	1.00	Water erosion	1.00		
	Content of large stones	0.10	Slope	1.00		
			Content of large stones	0.10		
898F2:						
Hickory	Very limited		Very limited		---	
	Slope	1.00	Slope	1.00		
			Water erosion	0.88		
Sylvan	Very limited		Very limited		---	
	Slope	1.00	Water erosion	1.00		
			Slope	1.00		
965C2:						
Tallula	Somewhat limited		Very limited		---	
	Slope	0.99	Water erosion	1.00		
			Slope	0.99		
Bold	Somewhat limited		Very limited		---	
	Slope	0.99	Water erosion	1.00		
			Slope	0.99		
965D2:						
Tallula	Very limited		Very limited		---	
	Slope	1.00	Water erosion	1.00		
			Slope	1.00		
Bold	Very limited		Very limited		---	
	Slope	1.00	Water erosion	1.00		
			Slope	1.00		
3073A:						
Ross	Not limited		Somewhat limited		---	
			Water erosion	0.88		
3074A:						
Radford	Not limited		Very limited		Very limited	
			Water erosion	1.00	Depth to saturated zone	1.00
			Depth to saturated zone	1.00	Flooding	0.80
3077A:						
Huntsville	Not limited		Somewhat limited		---	
			Water erosion	0.88		
3107+:						
Sawmill	Not limited		Very limited		Very limited	
			Depth to saturated zone	1.00	Depth to saturated zone	1.00
			Water erosion	0.88	Flooding	0.80

Table 18b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3107A:						
Sawmill	Not limited		Very limited		Very limited	
			Ponding	1.00	Ponding	1.00
			Depth to saturated zone	1.00	Depth to saturated zone	1.00
			Water erosion	0.50	Flooding	0.80
3107S:						
Sawmill, sandy substratum	Not limited		Very limited		Very limited	
			Ponding	1.00	Ponding	1.00
			Depth to saturated zone	1.00	Depth to saturated zone	1.00
			Water erosion	0.50	Cutbanks cave	1.00
					Flooding	0.80
3284A:						
Tice	Not limited		Very limited		Very limited	
			Depth to saturated zone	1.00	Depth to saturated zone	1.00
			Water erosion	0.88	Flooding	0.80
3284S:						
Tice, sandy substratum	Not limited		Very limited		Very limited	
			Depth to saturated zone	1.00	Depth to saturated zone	1.00
			Water erosion	0.88	Cutbanks cave	1.00
					Flooding	0.80
3304A:						
Landes	Not limited		Very limited		---	
			Too sandy	1.00		
			Water erosion	0.88		
3405A:						
Zook	Not limited		Very limited		Very limited	
			Ponding	1.00	Ponding	1.00
			Depth to saturated zone	1.00	Depth to saturated zone	1.00
			Water erosion	0.50	Flooding	0.80
					Too clayey	0.01
3408A:						
Aquents, loamy	Not limited		Very limited		Very limited	
			Water erosion	1.00	Ponding	1.00
			Ponding	1.00	Depth to saturated zone	1.00
			Depth to saturated zone	1.00	Flooding	0.80
3451A:						
Lawson	Not limited		Very limited		Very limited	
			Depth to saturated zone	1.00	Depth to saturated zone	1.00
			Water erosion	0.88	Flooding	0.80
7148A:						
Proctor	Not limited		Very limited		---	
			Water erosion	1.00		

Table 18b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
7191A:						
Knight	Not limited		Very limited		Very limited	
			Water erosion	1.00	Ponding	1.00
			Ponding	1.00	Depth to saturated zone	1.00
			Depth to saturated zone	1.00		
7198A:						
Elburn	Not limited		Very limited		Very limited	
			Water erosion	1.00	Depth to saturated zone	1.00
			Depth to saturated zone	1.00	Cutbanks cave	1.00
7199A:						
Plano	Not limited		Very limited		---	
			Water erosion	1.00		
7304A:						
Landes	Not limited		Very limited		---	
			Too sandy	1.00		
			Water erosion	0.12		
8074A:						
Radford	Not limited		Very limited		Very limited	
			Water erosion	1.00	Depth to saturated zone	1.00
			Depth to saturated zone	1.00	Flooding	0.60
8107+:						
Sawmill	Not limited		Very limited		Very limited	
			Depth to saturated zone	1.00	Depth to saturated zone	1.00
			Water erosion	0.88	Flooding	0.60
8107A:						
Sawmill	Not limited		Very limited		Very limited	
			Ponding	1.00	Ponding	1.00
			Depth to saturated zone	1.00	Depth to saturated zone	1.00
			Water erosion	0.50	Flooding	0.60
8284A:						
Tice	Not limited		Very limited		Very limited	
			Depth to saturated zone	1.00	Depth to saturated zone	1.00
			Water erosion	0.88	Flooding	0.60
8451A:						
Lawson	Not limited		Very limited		Very limited	
			Depth to saturated zone	1.00	Depth to saturated zone	1.00
			Water erosion	0.88	Flooding	0.60

Table 18b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8452A:						
Riley	Not limited		Very limited		Very limited	
			Depth to saturated zone	1.00	Depth to saturated zone	1.00
			Too sandy	1.00	Cutbanks cave	1.00
			Water erosion	0.88	Flooding	0.60

Table 18c.--Water Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value column range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Sprinkler irrigation	
	Rating class and limiting features	Value
16A:		
Rushville	Very limited	
	Ponding	1.00
	Depth to saturated zone	1.00
17A:		
Keomah	Very limited	
	Depth to saturated zone	1.00
27D2:		
Miami	Very limited	
	Water erosion	1.00
	Slope	0.98
	Limited available water capacity	0.08
36A:		
Tama	Not limited	
36B:		
Tama	Not limited	
36C2:		
Tama	Very limited	
	Water erosion	1.00
	Slope	0.06
36D2:		
Tama	Very limited	
	Water erosion	1.00
	Slope	0.98
43A:		
Ipava	Very limited	
	Depth to saturated zone	1.00
45A:		
Denny	Very limited	
	Ponding	1.00
	Depth to saturated zone	1.00
67A:		
Harpster	Very limited	
	Ponding	1.00
	Depth to saturated zone	1.00

Table 18c.--Water Management--Continued

Map symbol and soil name	Sprinkler irrigation	
	Rating class and limiting features	Value
68A:		
Sable	Very limited	
	Ponding	1.00
	Depth to saturated zone	1.00
86B:		
Osco	Not limited	
86C2:		
Osco	Very limited	
	Water erosion	1.00
	Slope	0.06
134C2:		
Camden	Very limited	
	Water erosion	1.00
	Slope	0.06
134C3:		
Camden	Very limited	
	Water erosion	1.00
	Slope	0.06
138A:		
Shiloh	Very limited	
	Ponding	1.00
	Depth to saturated zone	1.00
148B:		
Proctor	Not limited	
148C2:		
Proctor	Very limited	
	Water erosion	1.00
	Slope	0.06
148D2:		
Proctor	Very limited	
	Water erosion	1.00
	Slope	0.98
149A:		
Brenton	Very limited	
	Depth to saturated zone	1.00
152A:		
Drummer	Very limited	
	Ponding	1.00
	Depth to saturated zone	1.00
159B:		
Pillot	Not limited	
159C2:		
Pillot	Very limited	
	Water erosion	1.00
	Slope	0.06

Table 18c.--Water Management--Continued

Map symbol and soil name	Sprinkler irrigation	
	Rating class and limiting features	Value
171B:		
Catlin	Very limited	
	Water erosion	1.00
171C2:		
Catlin	Very limited	
	Water erosion	1.00
	Slope	0.06
171D2:		
Catlin	Very limited	
	Water erosion	1.00
	Slope	0.98
191A:		
Knight	Very limited	
	Ponding	1.00
	Depth to saturated zone	1.00
198A:		
Elburn	Very limited	
	Depth to saturated zone	1.00
199A:		
Plano	Not limited	
199B:		
Plano	Not limited	
199C2:		
Plano	Very limited	
	Water erosion	1.00
	Slope	0.06
206A:		
Thorp	Very limited	
	Ponding	1.00
	Depth to saturated zone	1.00
212C2:		
Thebes	Very limited	
	Water erosion	1.00
	Slope	0.06
233B:		
Birkbeck	Very limited	
	Water erosion	1.00
233C2:		
Birkbeck	Very limited	
	Water erosion	1.00
	Slope	0.06
243A:		
St. Charles	Not limited	

Table 18c.--Water Management--Continued

Map symbol and soil name	Sprinkler irrigation	
	Rating class and limiting features	Value
243B:		
St. Charles	Very limited	
	Water erosion	1.00
243C2:		
St. Charles	Very limited	
	Water erosion	1.00
	Slope	0.06
244A:		
Hartsburg	Very limited	
	Ponding	1.00
	Depth to saturated zone	1.00
257A:		
Clarksdale	Very limited	
	Depth to saturated zone	1.00
272A:		
Edgington	Very limited	
	Ponding	1.00
	Depth to saturated zone	1.00
279A:		
Rozetta	Not limited	
279B:		
Rozetta	Very limited	
	Water erosion	1.00
279B2:		
Rozetta	Very limited	
	Water erosion	1.00
279C2:		
Rozetta	Very limited	
	Water erosion	1.00
	Slope	0.06
279C3:		
Rozetta	Very limited	
	Water erosion	1.00
	Slope	0.06
279D2:		
Rozetta	Very limited	
	Water erosion	1.00
	Slope	0.98
280C2:		
Fayette	Very limited	
	Water erosion	1.00
	Slope	0.06
280D2:		
Fayette	Very limited	
	Water erosion	1.00
	Slope	0.98

Table 18c.--Water Management--Continued

Map symbol and soil name	Sprinkler irrigation	
	Rating class and limiting features	Value
374A:		
Proctor, sandy substratum	Not limited	
533:		
Urban land	Not rated	
567C2:		
Elkhart	Very limited	
	Water erosion	1.00
	Slope	0.06
618F:		
Senachwine	Very limited	
	Slope	1.00
	Water erosion	1.00
622C2:		
Wyanet	Somewhat limited	
	Limited available water capacity	0.19
	Slope	0.06
622D2:		
Wyanet	Somewhat limited	
	Slope	0.98
	Limited available water capacity	0.23
663A:		
Clare	Not limited	
683A:		
Lawndale	Very limited	
	Depth to saturated zone	1.00
684A:		
Broadwell	Not limited	
684B:		
Broadwell	Not limited	
684C2:		
Broadwell	Very limited	
	Water erosion	1.00
	Slope	0.06
685B:		
Middletown	Very limited	
	Water erosion	1.00
685C2:		
Middletown	Very limited	
	Water erosion	1.00
	Slope	0.06
685D2:		
Middletown	Very limited	
	Water erosion	1.00
	Slope	0.98

Table 18c.--Water Management--Continued

Map symbol and soil name	Sprinkler irrigation	
	Rating class and limiting features	Value
705A:		
Buckhart	Not limited	
705B:		
Buckhart	Not limited	
712A:		
Spaulding	Very limited	
	Ponding	1.00
	Depth to saturated zone	1.00
726A:		
Elburn, sandy substratum	Very limited	
	Depth to saturated zone	1.00
733C2:		
Birkbeck	Very limited	
	Water erosion	1.00
	Slope	0.06
Senachwine	Very limited	
	Water erosion	1.00
	Slope	0.06
	Limited available water capacity	0.01
733C3:		
Birkbeck	Very limited	
	Water erosion	1.00
	Slope	0.06
Senachwine	Very limited	
	Water erosion	1.00
	Slope	0.06
	Limited available water capacity	0.01
736D2:		
Senachwine	Very limited	
	Water erosion	1.00
	Slope	0.98
Russell	Very limited	
	Water erosion	1.00
	Slope	0.98
737A:		
Tama, very deep to sand	Not limited	
737B:		
Tama, very deep to sand	Not limited	

Table 18c.--Water Management--Continued

Map symbol and soil name	Sprinkler irrigation	
	Rating class and limiting features	Value
737C2:		
Tama, very deep to sand	Very limited	
	Water erosion	1.00
	Slope	0.06
748A:		
Plano, sandy substratum	Not limited	
748B:		
Plano, sandy substratum	Not limited	
748C2:		
Plano, sandy substratum	Very limited	
	Water erosion	1.00
	Slope	0.06
749B:		
Buckhart, till substratum	Not limited	
802B:		
Orthents, loamy	Very limited	
	Water erosion	1.00
802E:		
Orthents, loamy	Very limited	
	Water erosion	1.00
	Slope	1.00
827A:		
Broadwell	Not limited	
Onarga	Somewhat limited	
	Limited available water capacity	0.01
827B:		
Broadwell	Not limited	
Onarga	Somewhat limited	
	Limited available water capacity	0.01
827B2:		
Broadwell	Very limited	
	Water erosion	1.00
Onarga	Somewhat limited	
	Limited available water capacity	0.01
828D2:		
Broadwell	Very limited	
	Water erosion	1.00
	Slope	0.60

Table 18c.--Water Management--Continued

Map symbol and soil name	Sprinkler irrigation	
	Rating class and limiting features	Value
828D2:		
Sparta	Very limited	
	Wind erosion	1.00
	Limited available water capacity	1.00
	Slope	0.60
830:		
Landfills	Not rated	
861B2:		
Princeton	Very limited	
	Wind erosion	1.00
Bloomfield	Very limited	
	Wind erosion	1.00
	Limited available water capacity	0.99
861D2:		
Princeton	Very limited	
	Wind erosion	1.00
	Slope	0.60
Bloomfield	Very limited	
	Wind erosion	1.00
	Limited available water capacity	0.99
	Slope	0.60
861F:		
Princeton	Very limited	
	Wind erosion	1.00
	Slope	1.00
Bloomfield	Very limited	
	Wind erosion	1.00
	Slope	1.00
	Limited available water capacity	0.99
864:		
Pits, quarries	Not rated	
865:		
Pits, gravel	Not rated	
871B:		
Lenzburg	Very limited	
	Water erosion	1.00
871D:		
Lenzburg	Very limited	
	Water erosion	1.00
	Slope	0.98
898F2:		
Hickory	Very limited	
	Slope	1.00
	Water erosion	1.00

Table 18c.--Water Management--Continued

Map symbol and soil name	Sprinkler irrigation	
	Rating class and limiting features	Value
898F2:		
Sylvan	Very limited	
	Slope	1.00
	Water erosion	1.00
965C2:		
Tallula	Very limited	
	Water erosion	1.00
	Slope	0.06
Bold	Very limited	
	Water erosion	1.00
	Slope	0.06
965D2:		
Tallula	Very limited	
	Water erosion	1.00
	Slope	0.98
Bold	Very limited	
	Water erosion	1.00
	Slope	0.98
3073A:		
Ross	Very limited	
	Flooding	1.00
3074A:		
Radford	Very limited	
	Flooding	1.00
	Depth to saturated zone	1.00
3077A:		
Huntsville	Very limited	
	Flooding	1.00
3107+:		
Sawmill	Very limited	
	Flooding	1.00
	Depth to saturated zone	1.00
3107A:		
Sawmill	Very limited	
	Ponding	1.00
	Flooding	1.00
	Depth to saturated zone	1.00
3107S:		
Sawmill, sandy substratum	Very limited	
	Ponding	1.00
	Flooding	1.00
	Depth to saturated zone	1.00

Table 18c.--Water Management--Continued

Map symbol and soil name	Sprinkler irrigation	
	Rating class and limiting features	Value
3284A:		
Tice	Very limited	
	Flooding	1.00
	Depth to saturated zone	1.00
3284S:		
Tice, sandy substratum	Very limited	
	Flooding	1.00
	Depth to saturated zone	1.00
3304A:		
Landes	Very limited	
	Flooding	1.00
	Limited available water capacity	0.82
3405A:		
Zook	Very limited	
	Ponding	1.00
	Flooding	1.00
	Depth to saturated zone	1.00
3408A:		
Aquents, loamy	Very limited	
	Ponding	1.00
	Flooding	1.00
	Depth to saturated zone	1.00
3451A:		
Lawson	Very limited	
	Flooding	1.00
	Depth to saturated zone	1.00
7148A:		
Proctor	Not limited	
7191A:		
Knight	Very limited	
	Ponding	1.00
	Depth to saturated zone	1.00
7198A:		
Elburn	Very limited	
	Depth to saturated zone	1.00
7199A:		
Plano	Not limited	
7304A:		
Landes	Somewhat limited	
	Limited available water capacity	0.82

Table 18c.--Water Management--Continued

Map symbol and soil name	Sprinkler irrigation	
	Rating class and limiting features	Value
8074A:		
Radford	Very limited	
	Depth to saturated zone	1.00
8107+:		
Sawmill	Very limited	
	Depth to saturated zone	1.00
8107A:		
Sawmill	Very limited	
	Ponding	1.00
	Depth to saturated zone	1.00
8284A:		
Tice	Very limited	
	Depth to saturated zone	1.00
8451A:		
Lawson	Very limited	
	Depth to saturated zone	1.00
8452A:		
Riley	Very limited	
	Depth to saturated zone	1.00

Table 19.--Engineering Index Properties

(Absence of an entry indicates that data were not estimated)

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
16A:												
Rushville-------	0-7	Silt loam	CL, ML	A-4, A-6	0	0	100	100	95-100	90-100	25-40	NP-15
	7-13	Silt loam, silt	CL, CL-ML, ML	A-4, A-6	0	0	100	100	95-100	95-100	20-40	NP-15
	13-32	Silty clay loam, silty clay	CH, CL	A-7-6	0	0	100	100	95-100	95-100	45-60	20-35
	32-50	Silty clay loam, silty clay	CH, CL, MH, ML	A-7-6, A-7-5	0	0	100	100	95-100	95-100	45-60	15-30
	50-80	Silt loam, silty clay loam	CL	A-6, A-7-6, A-4	0	0	100	100	95-100	90-100	30-45	8-20
17A:												
Keomah----------	0-11	Silt loam	CL, ML	A-4, A-6	0	0	100	100	100	95-100	25-35	10-15
	11-18	Silt loam	CL, ML	A-4, A-6	0	0	100	100	100	95-100	25-35	10-20
	18-33	Silty clay, silty clay loam	CH, CL	A-7-6	0	0	100	100	100	95-100	45-55	25-30
	33-51	Silty clay loam	CL	A-6, A-7-6	0	0	100	100	100	95-100	35-45	15-25
	51-89	Silt loam	CL, CL-ML, ML	A-6, A-4	0	0	100	100	100	95-100	25-35	5-15
27D2:												
Miami-----------	0-4	Silt loam	CL, ML	A-6	0	0	95-100	95-100	90-98	80-90	29-37	10-16
	4-12	Silty clay loam	CL	A-6	0	0	95-100	90-100	85-95	75-90	33-39	13-18
	12-28	Clay loam	CL	A-6	0	0-3	90-100	85-98	75-95	55-85	33-39	12-18
	28-33	Clay loam	CL	A-6	0	0-3	90-100	85-98	75-95	55-85	33-39	12-18
	33-60	Loam	CL-ML, ML, CL, SC, SC-SM	A-4	0	0-3	90-100	85-98	75-95	45-75	22-28	4-10
36A:												
Tama----------	0-19	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	95-100	25-40	5-15
	19-58	Silty clay loam	CL	A-7, A-7-6, A-7-5, A-6	0	0	100	100	100	95-100	40-50	15-25
	58-80	Silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
36B:												
Tama----------	0-19	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	95-100	25-40	5-15
	19-58	Silty clay loam	CL	A-7, A-7-6, A-7-5, A-6	0	0	100	100	100	95-100	40-50	15-25
	58-80	Silt loam	CL	A-6, A-7-6, A-7	0	0	100	100	100	95-100	35-45	15-25

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
36C2:												
Tama	0-8	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	95-100	25-40	5-15
	8-30	Silty clay loam	CL	A-7-6, A-7, A-6	0	0	100	100	100	95-100	40-50	15-25
	30-60	Silt loam	CL	A-6	0	0	100	100	100	95-100	35-45	15-25
36D2:												
Tama	0-8	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	95-100	25-40	5-15
	8-30	Silty clay loam	CL	A-7-5, A-6, A-7-6	0	0	100	100	100	95-100	40-50	15-25
	30-60	Silt loam	CL	A-6	0	0	100	100	100	95-100	35-45	15-25
43A:												
Ipava	0-10	Silt loam	CL	A-4, A-7-6, A-6	0	0	100	100	97-100	95-100	32-47	9-18
	10-18	Silty clay loam	CL	A-7-6	0	0	100	100	97-100	95-100	40-52	19-25
	18-31	Silty clay loam, silty clay	CH, CL	A-7-6	0	0	100	100	97-100	95-100	46-58	25-33
	31-50	Silty clay loam	CL	A-7-6	0	0	100	100	97-100	95-100	37-46	19-25
	50-60	Silt loam	CL	A-4, A-6	0	0	100	100	96-100	93-100	24-38	9-19
45A:												
Denny	0-8	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	95-100	30-40	8-15
	8-21	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	25-40	5-15
	21-46	Silty clay loam, silty clay	CH, CL	A-6, A-7-5, A-7-6	0	0	100	100	95-100	95-100	35-60	20-35
	46-80	Silt loam, silty clay loam	CL	A-6	0	0	100	100	95-100	95-100	25-40	11-20
67A:												
Harpster	0-18	Silty clay loam	ML, MH	A-7-6, A-7-5	0	0	100	97-100	95-100	85-100	44-57	18-24
	18-41	Silty clay loam	CL	A-7-6, A-6	0	0	100	97-100	95-100	85-100	38-48	19-25
	41-56	Silt loam	CL	A-6	0	0	100	97-100	85-100	75-100	26-39	9-19
	56-60	Loam, silt loam	CL	A-6	0	0	100	95-100	80-95	50-75	25-38	9-19
68A:												
Sable	0-23	Silty clay loam	CL, ML	A-7-6, A-7-5	0	0	100	100	97-100	95-100	40-46	15-19
	23-38	Silty clay loam	CL	A-7-6, A-6	0	0	100	100	97-100	95-100	37-46	16-24
	38-47	Silt loam, silty clay loam	CL	A-6, A-4	0	0	100	100	97-100	95-100	24-37	7-17
	47-60	Silt loam	CL	A-6, A-4	0	0	100	100	97-100	95-100	24-37	7-18

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
86B:												
Osco	0-14	Silt loam	CL, ML	A-7-6, A-6, A-7-5	0	0	100	100	100	95-100	35-44	13-18
	14-55	Silty clay loam, silt loam	CL	A-7-5, A-7-6	0	0	100	100	100	95-100	40-50	15-25
	55-60	Silt loam, silty clay loam	CL, ML	A-6, A-4	0	0	100	100	100	95-100	29-40	7-21
86C2:												
Osco	0-9	Silt loam	CL, ML	A-6, A-4	0	0	100	100	95-100	95-100	35-45	10-20
	9-34	Silty clay loam, silt loam	CL	A-7-6, A-6	0	0	100	100	95-100	95-100	40-50	15-25
	34-60	Silt loam, silty clay loam	CL, ML	A-6, A-4	0	0	100	100	95-100	95-100	35-45	7-25
134C2:												
Camden	0-7	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	95-100	95-100	24-37	6-15
	7-34	Silt loam, silty clay loam	CL	A-7-6, A-6	0	0	100	97-100	95-100	91-100	35-46	14-24
	34-43	Loam, clay loam	CL, SC	A-4, A-6	0	0-5	90-100	90-100	77-96	48-77	25-33	8-14
	43-80	Stratified loamy sand to sandy loam	SC-SM, SM	A-2-4, A-4, A-1-b	0	0-5	90-100	80-100	40-89	15-40	19-25	1-7
134C3:												
Camden	0-7	Silty clay loam	CL, ML	A-6, A-7	0	0	100	100	100	95-100	35-45	10-20
	7-34	Silt loam, silty clay loam	CL	A-6, A-7-6	0	0	100	97-100	95-100	95-100	35-46	14-24
	34-43	Loam, clay loam	CL, ML, SC	A-4, A-6	0	0	90-100	90-100	70-85	45-70	25-33	8-14
	43-80	Stratified loamy sand to sandy loam	SC-SM, SM	A-2-4, A-4, A-1-b	0	0-5	90-100	80-100	40-89	15-40	19-25	1-7
138A:												
Shiloh	0-27	Silty clay loam, silty clay	MH	A-7-5, A-7-6	0	0	100	100	95-100	90-100	53-65	25-30
	27-52	Silty clay, silty clay loam	CH, CL	A-7-6	0	0	100	100	95-100	90-100	46-59	25-33
	52-80	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	90-100	33-44	16-25

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
148B:												
Proctor---------	0-11	Silt loam	CL	A-6, A-4	0	0	100	100	95-100	90-100	25-40	10-20
	11-28	Silty clay loam, silt loam	CL	A-6, A-7-6, A-4, A-5	0	0	100	100	95-100	90-100	25-50	10-25
	28-33	Loam, clay loam, sandy loam	CL, CL-ML, SC, SC-SM	A-2-4, A-2-6, A-4, A-6, A-7-6	0	0	90-100	85-100	75-100	30-85	20-45	5-25
	33-60	Stratified loam to loamy sand	CL, CL-ML, SC, SC-SM	A-4, A-6, A-2-4, A-2-6	0	0	85-100	80-100	50-100	15-85	20-40	5-20
148C2:												
Proctor---------	0-8	Silt loam	CL, ML	A-4, A-6	0	0	100	97-100	95-100	85-100	29-37	10-16
	8-28	Silty clay loam	CL, ML	A-7-6, A-6	0	0	100	97-100	95-100	85-100	37-46	17-24
	28-33	Loam, clay loam, sandy loam	CL, CL-ML, SC, SC-SM	A-2-4, A-2-6, A-4, A-6, A-7-6	0	0	90-100	85-100	75-100	30-85	20-45	5-25
	33-60	Stratified loam to loamy sand	CL, CL-ML, SC, SC-SM	A-4, A-6, A-2-4, A-2-6	0	0	85-100	80-100	50-100	15-85	20-40	5-20
148D2:												
Proctor---------	0-8	Silt loam	CL, ML	A-4, A-6	0	0	100	97-100	95-100	85-100	29-37	10-16
	8-28	Silty clay loam	CL, ML	A-7-6, A-6	0	0	100	97-100	95-100	85-100	37-46	17-24
	28-33	Loam, clay loam, sandy loam	CL, CL-ML, SC, SC-SM	A-2-4, A-2-6, A-4, A-6, A-7-6	0	0	90-100	85-100	75-100	30-85	20-45	5-25
	33-60	Stratified loam to loamy sand	CL, CL-ML, SC, SC-SM	A-4, A-6, A-2-4, A-2-6	0	0	85-100	80-100	50-100	15-85	20-40	5-20
149A:												
Brenton---------	0-14	Silt loam	CL, ML, CL-ML	A-4, A-6	0	0	100	97-100	95-100	85-100	25-35	5-15
	14-33	Silty clay loam	CL	A-6, A-7-6	0	0	100	97-100	95-100	85-100	35-45	15-24
	33-45	Stratified loam to fine sandy loam	CL	A-6, A-4	0	0	95-100	90-100	75-95	50-70	25-38	9-19
	45-80	Stratified silt to fine sandy loam	CL-ML, CL	A-6, A-4	0	0	95-100	90-100	75-95	50-85	20-38	6-19
152A:												
Drummer---------	0-14	Silty clay loam	CL, ML	A-7-6, A-7-5	0	0	100	97-100	95-100	85-100	40-46	15-19
	14-41	Silty clay loam	CL	A-7-6, A-6	0	0	100	97-100	95-100	85-100	37-46	16-24
	41-47	Loam	CL	A-6, A-4	0	0	95-100	90-100	75-95	50-80	25-33	8-14
	47-60	Stratified loam to sandy loam	SC, CL, CL-ML, SC-SM	A-4, A-2-4	0	0	95-100	80-100	55-95	30-65	22-28	4-10

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
159B:												
Pillot----------	0-15	Silt loam	CL	A-6, A-4	0	0	100	100	85-100	85-100	25-40	10-20
	15-32	Silty clay loam, silt loam	CL	A-6, A-7, A-7-6, A-5, A-	0	0	100	100	95-100	90-100	30-45	10-25
	32-36	Sandy clay loam, loam, clay loam, loamy fine sand	SC, SC-SM	A-4, A-2-4	0	0	100	100	80-95	35-50	20-30	5-10
	36-60	Loamy sand, fine sand, sand	SC-SM, SM, SP, SP-SM	A-2, A-3, A-2-4	0	0	100	100	75-95	4-35	0-20	NP-5
159C2:												
Pillot----------	0-8	Silt loam	CL	A-6, A-4	0	0	100	100	85-100	85-100	25-40	10-20
	8-32	Silty clay loam, silt loam	CL	A-6, A-7, A-7-6	0	0	100	100	95-100	90-100	30-45	10-25
	32-36	Sandy clay loam, loam, clay loam, loamy fine sand	SC, SC-SM	A-4, A-2-4	0	0	100	100	80-95	35-50	20-30	5-10
	36-60	Loamy sand, fine sand, sand	SC-SM, SM, SP, SP-SM	A-2, A-3, A-2-4	0	0	100	100	75-95	4-35	0-20	NP-5
171B:												
Catlin----------	0-11	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	97-100	95-100	24-37	5-15
	11-16	Silty clay loam	CL	A-7-6	0	0	100	100	97-100	95-100	40-46	16-21
	16-41	Silty clay loam	CL	A-7-6, A-6	0	0	100	100	95-100	90-100	37-46	16-24
	41-45	Clay loam	CL	A-6	0	0	90-98	85-98	76-95	54-83	33-39	12-18
	45-60	Loam	CL, CL-ML	A-4, A-6	0-1	0-3	90-100	85-95	70-90	50-70	22-33	4-14
171C2:												
Catlin----------	0-9	Silt loam	CL, ML	A-6	0	0	100	100	97-100	95-100	29-37	10-16
	9-40	Silty clay loam	CL	A-7-6, A-6	0	0	100	100	97-100	95-100	37-46	16-24
	40-50	Silty clay loam, silt loam	CL	A-6	0	0	100	97-100	95-100	85-100	35-40	14-20
	50-55	Clay loam	CL	A-6	0	0	90-98	85-98	76-95	55-85	33-39	12-18
	55-60	Clay loam	CL	A-6	0-1	0-2	90-98	80-95	70-90	50-80	33-39	13-18
171D2:												
Catlin----------	0-9	Silt loam	CL, ML	A-4, A-6	0	0	100	100	97-100	95-100	29-37	10-16
	9-40	Silty clay loam	CL, ML	A-7-6, A-6	0	0	100	100	97-100	95-100	37-46	16-24
	40-50	Silty clay loam, silt loam	CL, ML	A-6	0	0	100	97-100	95-100	85-100	35-40	14-20
	50-55	Clay loam	CL, ML	A-6	0	0	90-98	85-98	76-95	55-85	33-39	12-18
	55-60	Clay loam	CL	A-6	0-1	0-2	90-98	80-95	70-90	50-80	33-39	13-18

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
191A:												
Knight----------	0-10	Silt loam	CL	A-4, A-6	0	0	100	95-100	90-95	85-95	30-40	8-15
	10-22	Silt loam	CL	A-6, A-4	0	0	100	95-100	90-95	85-95	30-40	10-15
	22-70	Silty clay loam, silt loam	CL	A-6, A-4, A-7-6, A-7-5, A-5	0	0	100	95-100	90-95	85-95	30-45	10-20
	70-80	Stratified gravelly sandy loam to clay loam	SC-SM, CL, CL-ML	A-2-6, A-1-b, A-2-4, A-4, A-6	0	0-5	85-100	70-95	45-95	20-85	20-35	5-15
198A:												
Elburn----------	0-16	Silt loam	CL, CL-ML, ML	A-6, A-4	0	0	100	100	97-100	95-100	24-37	4-14
	16-49	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	97-100	95-100	37-46	16-24
	49-58	Stratified sandy loam to silt loam	CL-ML, CL	A-4, A-6	0	0	95-100	95-100	85-100	55-80	20-30	5-15
	58-62	Stratified sandy loam to loamy sand	SC-SM, SM	A-2-4, A-4	0	0	95-100	90-100	60-100	20-50	19-25	1-7
199A:												
Plano----------	0-14	Silt loam	CL, CL-ML, ML	A-7-6, A-6, A-7-5	0	0	100	100	95-100	90-100	33-45	11-18
	14-49	Silty clay loam, silt loam	CL	A-6	0	0	100	100	95-100	90-100	25-40	10-25
	49-60	Loam, clay loam, sandy loam, sandy clay loam	CL, ML, SC, SM	A-4, A-6, A-2-6, A-2-4	0	0-1	90-100	85-95	60-90	30-75	25-37	7-17
	60-80	Stratified loamy sand to silt loam	SC, SM, CL, ML, SC-SM, CL-ML	A-2-4, A-4, A-1-b	0	0-3	90-100	80-95	35-90	15-65	20-30	2-10
199B:												
Plano----------	0-15	Silt loam	CL, ML	A-7-6, A-6, A-7-5	0	0	100	100	95-100	90-100	33-47	11-18
	15-45	Silty clay loam, silt loam	CL	A-6	0	0	100	100	95-100	90-100	29-40	11-25
	45-55	Loam, clay loam, sandy loam, sandy clay loam	CL, ML, SC, SM	A-4, A-6, A-2-6, A-2-4	0	0-1	90-100	85-95	60-90	30-75	25-37	7-17
	55-80	Stratified loamy sand to silt loam	SC, SM, CL, ML, SC-SM, CL-ML	A-2-4, A-4, A-1-b	0	0-3	90-100	80-95	35-90	15-65	20-30	2-10

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
199C2:												
Plano	0-8	Silt loam	CL, CL-ML	A-7-6, A-6, A-7-5	0	0	100	100	95-100	90-100	31-45	11-18
	8-41	Silty clay loam, silt loam	CL	A-6	0	0	100	100	95-100	90-100	25-40	10-25
	41-53	Loam, clay loam, sandy loam, sandy clay loam	CL, ML, SC, SM	A-4, A-6, A-2-6, A-2-4	0	0-1	90-100	85-95	60-90	30-75	25-37	7-17
	53-80	Stratified loamy sand to silt loam	SC, SM, CL, ML, SC-SM, CL-ML	A-2-4, A-4, A-1-b	0	0-3	90-100	80-95	35-90	15-65	20-30	2-10
206A:												
Thorp	0-14	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	95-100	95-100	90-100	30-49	7-18
	14-19	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	95-100	95-100	90-100	28-37	7-17
	19-43	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	95-100	95-100	90-100	32-46	15-25
	43-50	Sandy clay loam, clay loam, silt loam	CL, SC	A-4, A-6, A-7	0	0	90-100	90-100	80-100	40-90	29-42	10-21
	50-65	Stratified sandy loam, to silty clay loam	CL-ML, ML, SC-SM, SM, SC, CL	A-2, A-4	0	0	85-100	85-100	65-90	20-85	16-27	2-21
212C2:												
Thebes	0-9	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	9-31	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	31-39	Loam, sandy loam, clay loam	CL, ML, SC, SM, CL-ML	A-4, A-6	0	0	100	100	90-100	40-70	15-30	NP-13
	39-80	Stratified fine sand to sandy loam	SM, SP, SP-SM	A-2, A-3, A-2-4	0	0	100	90-100	75-95	4-35	0-20	NP-4
233B:												
Birkbeck	0-4	Silt loam	CL, ML	A-6	0	0	100	100	97-100	95-100	29-37	11-18
	4-9	Silt loam	CL	A-6, A-4	0	0	100	100	97-100	95-100	24-37	7-18
	9-54	Silty clay loam	CL	A-7-6, A-6	0	0	100	100	97-100	95-100	37-46	16-25
	54-60	Loam	CL, SC	A-6, A-4	0	0-1	85-100	85-100	70-95	45-75	25-33	8-14
	60-68	Loam	CL, SC, SC-SM, CL-ML	A-4, A-6	0-1	0-3	85-100	85-100	70-95	45-75	22-33	4-14
233C2:												
Birkbeck	0-7	Silt loam	CL, ML	A-6	0	0	100	100	97-100	95-100	29-37	11-18
	7-46	Silty clay loam	CL	A-7-6, A-6	0	0	100	100	97-100	95-100	37-46	16-25
	46-57	Loam	CL, SC	A-6, A-4	0	0	90-100	85-100	70-90	45-70	25-33	8-14
	57-60	Loam	CL, SC, SC-SM, CL-ML	A-4, A-6	0-1	0-3	90-100	85-100	70-90	45-70	22-33	4-14

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
243A:												
St. Charles-----	0-8	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	95-100	22-35	7-15
	8-50	Silty clay loam, silt loam	CL	A-6	0	0	100	100	95-100	90-100	30-40	10-20
	50-60	Clay loam, silt loam, sandy loam, loam	CL, SC	A-4, A-6	0	0	90-100	75-100	75-95	40-80	20-35	8-20
243B:												
St. Charles-----	0-8	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	95-100	22-35	7-15
	8-50	Silty clay loam, silt loam	CL	A-6	0	0	100	100	95-100	90-100	30-40	10-20
	50-60	Stratified sandy loam to clay loam	CL, SC	A-4, A-6	0	0	90-100	75-100	75-95	40-80	20-35	8-20
243C2:												
St. Charles-----	0-8	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	95-100	22-35	7-15
	8-41	Silty clay loam, silt loam	CL	A-6	0	0	100	100	95-100	90-100	30-40	10-25
	41-60	Clay loam, silt loam, sandy loam, loam	CL, SC	A-4, A-6	0	0	90-100	75-100	75-95	40-80	20-35	8-20
244A:												
Hartsburg-------	0-17	Silty clay loam	MH, ML	A-7-5, A-7-6	0	0	100	100	97-100	95-100	46-57	18-24
	17-34	Silty clay loam, silt loam	CL	A-7-6, A-6	0	0	100	100	97-100	95-100	37-46	16-24
	34-60	Silt loam	CL	A-6, A-4	0	0	95-100	90-100	90-100	85-100	24-37	7-18
257A:												
Clarksdale------	0-8	Silt loam	CL	A-6	0	0	100	100	95-100	90-100	25-40	10-20
	8-16	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	90-100	20-35	8-18
	16-47	Silty clay loam, silty clay	CH, CL	A-7	0	0	100	100	95-100	90-100	40-65	25-40
	47-67	Silt loam, silty clay loam	CL	A-6, A-7-6	0	0	100	100	95-100	90-100	25-45	10-25
	67-80	Silt loam	CL	A-6	0	0	95-100	95-100	95-100	90-100	25-40	10-20
272A:												
Edgington-------	0-20	Silt loam	CL, ML, CL-ML	A-4, A-6	0	0	100	100	97-100	95-100	24-37	3-13
	20-31	Silt loam	CL, ML	A-6, A-4	0	0	100	100	97-100	95-100	24-37	7-18
	31-55	Silty clay loam	CL	A-7-6, A-6	0	0	100	100	97-100	95-100	37-46	16-24
	55-60	Silt loam	CL	A-6, A-4	0	0	100	100	97-100	95-100	24-37	7-18

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
279A:												
Rozetta---------	0-4	Silt loam	CL	A-6, A-4	0	0	100	100	95-100	95-100	24-35	8-15
	4-11	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	20-30	5-15
	11-50	Silty clay loam	CL	A-7-6, A-6	0	0	100	100	95-100	95-100	35-50	15-30
	50-60	Silt loam, silty clay loam	CL	A-6, A-4	0	0	100	100	95-100	85-100	25-40	7-20
279B:												
Rozetta---------	0-7	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	95-100	24-35	8-15
	7-11	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	20-30	5-15
	11-55	Silty clay loam	CL	A-6, A-7-6	0	0	100	100	95-100	95-100	35-50	15-30
	55-60	Silt loam, silty clay loam	CL	A-4, A-6	0	0	100	100	95-100	85-100	25-40	7-20
279B2:												
Rozetta---------	0-6	Silt loam	CL, ML	A-6	0	0	100	100	97-100	95-100	30-35	10-20
	6-53	Silty clay loam	CL, ML	A-6, A-7-6	0	0	100	100	97-100	95-100	35-45	15-25
	53-65	Silt loam, silty clay loam	CL, ML, CL-ML	A-4, A-6	0	0	100	100	97-100	95-100	25-35	5-15
	65-80	Loam	CL, SC, SC-SM, CL-ML	A-4, A-6	0-1	0-3	85-100	85-100	70-90	45-70	22-33	4-14
279C2:												
Rozetta---------	0-8	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	95-100	24-35	8-15
	8-56	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	35-50	15-30
	56-80	Silt loam, silty clay loam	CL	A-4, A-6	0	0	100	100	95-100	85-100	25-40	7-20
279C3:												
Rozetta---------	0-6	Silty clay loam	CL, ML	A-6, A-7	0	0	100	100	95-100	95-100	35-45	10-20
	6-33	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	35-50	15-30
	33-60	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	25-40	7-20
279D2:												
Rozetta---------	0-6	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	95-100	24-35	8-15
	6-49	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	35-50	15-30
	49-60	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	85-100	25-40	7-20
280C2:												
Fayette---------	0-8	Silt loam	CL	A-6, A-7-6, A-4	0	0	100	100	100	95-100	30-45	10-25
	8-64	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	100	95-100	35-45	15-25
	64-80	Silt loam	CL	A-6, A-4	0	0	100	100	100	95-100	30-40	10-20

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
280D2:												
Fayette---------	0-6	Silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	30-45	10-25
	6-48	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	48-60	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20
374A:												
Proctor, sandy substratum-----	0-17	Silt loam	CL	A-6, A-4	0	0	100	100	95-100	85-100	25-40	10-20
	17-30	Silty clay loam	CL	A-6, A-4	0	0	100	100	95-100	85-100	30-40	10-20
	30-50	Clay loam, sandy loam, loam	SC-SM, SC, SM	A-4	0	0	100	95-100	80-90	35-50	20-30	5-10
	50-60	Stratified coarse sand to loamy sand	SP, SM, SP-SM	A-2-4, A-3, A-1-b	0	0	93-100	80-100	42-90	3-22	11-17	NP-4
533.												
Urban land												
567C2:												
Elkhart---------	0-8	Silt loam	CL	A-4, A-6	0	0	100	100	100	95-100	25-35	8-15
	8-34	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-50	18-30
	34-60	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	95-100	20-37	8-20
618F:												
Senachwine------	0-11	Silt loam	CL-ML, CL, ML	A-4	0	0	95-100	90-100	75-100	55-90	19-29	2-10
	11-17	Silty clay loam, clay loam	CL, ML	A-6	0	0	90-100	85-99	75-95	55-90	33-39	12-18
	17-32	Clay loam	CL	A-6	0	0	90-100	85-99	75-95	55-85	33-39	12-18
	32-40	Loam, clay loam	CL, SC	A-6, A-4	0	0-2	90-100	85-99	70-90	45-75	25-33	8-14
	40-60	Loam	CL-ML, CL, SC-SM	A-4	0-1	0-3	90-100	85-99	70-90	45-75	22-28	4-10
622C2:												
Wyanet----------	0-8	Silt loam	CL, ML	A-4, A-6	0	0	95-100	90-100	80-100	65-85	29-33	8-11
	8-26	Clay loam, silty clay loam	CL	A-6	0	0	90-100	85-100	76-95	50-85	33-39	12-18
	26-34	Loam	CL, SC	A-6, A-4	0	0	90-100	85-100	70-95	45-75	25-33	8-14
	34-60	Loam	CL-ML, CL, SC, SC-SM	A-4	0	0-3	90-100	85-100	70-95	45-75	22-28	4-10

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
622D2:												
Wyanet----------	0-8	Silt loam	CL, ML	A-4, A-6	0	0	95-100	90-100	80-90	65-85	29-33	8-11
	8-26	Clay loam	CL, ML	A-6	0	0	90-100	85-100	70-90	50-80	33-39	12-18
	26-34	Loam	CL, ML, SC	A-6, A-4	0	0	90-100	85-100	70-90	45-70	25-33	8-14
	34-60	Loam	CL-ML, CL, ML, SC, SC-SM	A-4	0	0-3	90-100	85-100	70-90	45-70	22-28	4-10
663A:												
Clare-----------	0-11	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	97-100	95-100	85-100	24-37	5-15
	11-16	Silt loam	CL, ML	A-6, A-4	0	0	100	97-100	95-100	85-100	24-37	7-17
	16-30	Silty clay loam	CL, ML	A-7-6, A-6	0	0	100	97-100	95-100	85-100	37-46	17-24
	30-44	Clay loam	CL, ML	A-6	0	0	90-100	85-98	75-95	54-83	33-39	12-18
	44-60	Stratified silt loam to loam	CL-ML, CL, ML	A-4	0	0	93-100	75-98	65-98	50-85	22-28	4-10
683A:												
Lawndale--------	0-18	Silt loam	CL	A-4, A-6, A-7	0	0	100	100	100	95-100	25-45	8-25
	18-44	Silty clay loam, silt loam	CL, ML	A-6, A-7-6	0	0	100	100	100	95-100	35-45	15-25
	44-52	Fine sandy loam, loam, clay loam, loamy fine sand	SC, SC-SM	A-4	0	0	100	95-100	80-90	35-50	20-30	5-10
	52-80	Loamy fine sand, fine sand, sand	SC-SM, SM, SP, SP-SM	A-2-4, A-3	0	0	100	100	75-95	4-35	0-20	NP-5
684A:												
Broadwell-------	0-15	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	25-45	5-20
	15-50	Silty clay loam, silt loam	CL	A-6, A-7, A-7-6	0	0	100	100	95-100	90-100	30-45	10-25
	50-55	Fine sandy loam, loam, clay loam, loamy fine sand	SC, SC-SM	A-4	0	0	100	95-100	80-95	35-50	20-30	5-10
	55-80	Loamy sand, fine sand, sand	SC-SM, SM, SP, SP-SM	A-2, A-3, A-2-4	0	0	100	100	75-95	4-35	0-20	NP-5
684B:												
Broadwell-------	0-15	Silt loam	CL, ML	A-6, A-7-6	0	0	100	100	95-100	90-100	35-45	13-18
	15-50	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	90-100	30-45	10-25
	50-55	Fine sandy loam, loam, clay loam, loamy fine sand	SC, SC-SM	A-4	0	0	100	95-100	80-95	35-50	20-30	5-10
	55-80	Loamy sand, fine sand, sand	SC-SM, SM, SP, SP-SM	A-2, A-3, A-2-4	0	0	100	100	75-95	4-35	0-20	NP-5

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
684C2:												
Broadwell-------	0-8	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	95-100	25-40	5-15
	8-46	Silt loam, silty clay loam	CL	A-7-6, A-7	0	0	100	100	100	95-100	35-50	15-25
	46-49	Fine sandy loam, loam, loamy fine sand, clay loam	SC, SC-SM	A-4	0	0	100	95-100	80-95	35-50	20-30	5-10
	49-60	Loamy fine sand, loamy sand, fine sand	SC-SM, SM, SP-SM	A-2, A-3, A-2-4	0	0	100	90-100	75-95	5-40	0-20	NP-10
685B:												
Middletown------	0-9	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	90-100	25-40	5-15
	9-12	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	90-100	25-40	5-15
	12-44	Silty clay loam, silt loam	CL	A-6, A-7, A-7-6	0	0	100	100	100	95-100	35-50	15-30
	44-47	Fine sandy loam, loam, clay loam	SC, SC-SM	A-4	0	0	100	95-100	80-95	25-50	20-30	5-10
	47-79	Loamy fine sand, fine sand, loamy sand	SC, SC-SM, SM, SP-SM	A-2, A-3, A-4, A-2-4	0	0	100	90-100	75-95	5-40	0-20	NP-10
685C2:												
Middletown------	0-7	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	90-100	25-40	5-15
	7-46	Silty clay loam, silt loam	CL	A-6, A-7, A-7-6	0	0	100	100	100	95-100	35-50	15-30
	46-55	Fine sandy loam, loam, clay loam	SC, SC-SM	A-4	0	0	100	95-100	80-95	25-50	20-30	5-10
	55-60	Loamy fine sand, fine sand, loamy sand	SC, SC-SM, SM, SP-SM	A-2, A-3, A-4, A-2-4	0	0	100	90-100	75-95	5-40	0-20	NP-10
685D2:												
Middletown------	0-7	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	90-100	25-40	5-15
	7-46	Silty clay loam, silt loam	CL	A-6, A-7, A-7-6	0	0	100	100	100	95-100	35-50	15-30
	46-55	Fine sandy loam, loam, clay loam	SC, SC-SM	A-4	0	0	100	95-100	80-95	25-50	20-30	5-10
	55-60	Loamy fine sand, fine sand, loamy sand	SC, SC-SM, SM, SP-SM	A-2, A-3, A-4, A-2-4	0	0	100	90-100	75-95	5-40	0-20	NP-10

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
705A:												
Buckhart--------	0-20	Silt loam, silty clay loam	CL, ML	A-6, A-7	0	0	100	100	100	95-100	35-45	10-20
	20-58	Silty clay loam, silt loam	CL	A-7, A-7-6	0	0	100	100	100	95-100	40-50	15-25
	58-60	Silty clay loam, silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	11-20
705B:												
Buckhart--------	0-15	Silt loam	CL, ML	A-6, A-7-6	0	0	100	100	100	95-100	37-46	13-18
	15-67	Silty clay loam, silt loam	CL	A-7-6	0	0	100	100	100	95-100	40-50	15-25
	67-80	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	11-20
712A:												
Spaulding-------	0-22	Silty clay loam	ML, MH	A-7-6, A-7-5	0	0	100	100	95-100	95-100	45-57	18-24
	22-38	Silty clay loam	CL	A-7-6, A-6	0	0	100	100	95-100	95-100	37-46	17-24
	38-44	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	95-100	37-46	17-24
	44-80	Silt loam	CL	A-6, A-4	0	0	100	100	95-100	95-100	24-37	7-14
726A:												
Elburn, sandy substratum-----	0-14	Silt loam	CL, ML, CL-ML	A-4, A-6	0	0	100	100	97-100	95-100	24-37	4-14
	14-39	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	97-100	95-100	37-46	16-24
	39-50	Stratified sandy loam to silt loam	CL	A-6	0	0	100	100	96-100	78-92	25-35	10-20
	50-80	Stratified sand to loamy sand	SP, SM, SP-SM	A-2-4, A-3, A-1-b	0	0	93-100	80-100	42-90	3-22	11-17	NP-4
733C2:												
Birkbeck--------	0-7	Silt loam	CL, ML	A-6	0	0	100	100	97-100	95-100	29-37	11-18
	7-46	Silty clay loam	CL, ML	A-7-6, A-6	0	0	100	100	97-100	95-100	37-46	16-25
	46-57	Loam	CL, ML, SC	A-6, A-4	0	0	90-100	85-100	70-90	45-70	25-33	8-14
	57-60	Loam	CL, ML, SC, SC-SM, CL-ML	A-4, A-6	0-1	0-3	90-100	85-100	70-90	45-70	22-33	4-14
Senachwine------	0-5	Silt loam	CL, ML	A-6	0	0	95-100	95-100	90-98	80-90	29-37	10-16
	5-34	Silty clay loam, clay loam	CL	A-6	0	0	95-100	95-100	85-95	75-90	33-39	13-18
	34-64	Loam	CL-ML, CL, SC-SM	A-4	0-1	0-3	90-100	85-99	70-90	45-75	22-28	4-10

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
733C3:												
Birkbeck--------	0-7	Silty clay loam	CL, ML	A-6, A-7	0	0	100	100	97-100	95-100	35-45	10-20
	7-46	Silty clay loam	CL, ML	A-7-6, A-6	0	0	100	100	97-100	95-100	37-46	16-25
	46-57	Loam	CL, ML, SC	A-6, A-4	0	0	90-100	85-100	70-90	45-70	25-33	8-14
	57-60	Loam	CL, ML, SC, SC-SM, CL-ML	A-4, A-6	0-1	0-3	90-100	85-100	70-90	45-70	22-33	4-14
Senachwine------	0-4	Clay loam	CL, ML	A-6	0	0	100	90-100	75-95	55-85	30-40	12-20
	4-33	Clay loam	CL, ML	A-6	0	0	90-100	85-99	75-95	55-85	33-39	12-18
	33-60	Loam	CL-ML, CL, ML, SC-SM	A-4	0-1	0-3	90-100	85-99	70-90	45-75	22-28	4-10
736D2:												
Senachwine------	0-7	Silt loam	CL, ML	A-4, A-6	0	0	95-100	95-100	90-98	80-90	29-37	10-16
	7-34	Clay loam	CL	A-6	0	0	90-100	85-99	75-95	55-85	33-39	12-18
	34-70	Loam	CL-ML, CL, SC-SM	A-4	0-1	0-3	90-100	85-99	70-90	45-75	22-28	4-10
Russell---------	0-7	Silt loam	CL, ML	A-6	0	0	100	97-100	95-100	85-100	29-37	11-18
	7-27	Silty clay loam	CL	A-7-6, A-6	0	0	100	97-100	95-100	85-100	37-46	16-25
	27-48	Clay loam	CL	A-6	0	0	90-100	85-100	75-95	55-85	33-39	12-18
	48-65	Loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0-1	0-3	85-100	80-100	70-90	45-70	22-33	4-14
737A:												
Tama, very deep to sand--------	0-16	Silt loam	CL, CL-ML, ML	A-4, A-6, A-7, A-5	0	0	100	100	95-100	90-100	25-45	5-20
	16-67	Silty clay loam, silt loam	CL	A-6, A-7, A-7-6, A-7-5, A-5, A-4	0	0	100	100	95-100	90-100	30-45	10-25
	67-73	Fine sandy loam, loam, clay loam, loamy fine sand	SC, SC-SM	A-4	0	0	100	95-100	80-90	35-50	20-30	5-10
	73-93	Loamy sand, fine sand, loamy fine sand	SC-SM, SM, SP, SP-SM	A-2, A-3, A-2-4	0	0	93-100	80-100	75-95	4-35	0-20	NP-5
737B:												
Tama, very deep to sand--------	0-16	Silt loam	ML, CL	A-6, A-7-6	0	0	100	100	95-100	90-100	35-45	13-18
	16-70	Silty clay loam, silt loam	CL	A-7-5, A-6, A-7-6	0	0	100	100	95-100	90-100	30-45	10-25
	70-80	Loamy sand, fine sand, loamy fine sand	SC-SM, SM, SP, SP-SM	A-2-4, A-3	0	0	100	90-100	60-95	2-35	0-20	NP-5

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
737C2:												
Tama, very deep to sand--------	0-8	Silt loam	ML, CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	25-45	5-20
	8-66	Silty clay loam, silt loam	CL	A-7-5, A-6, A-7-6	0	0	100	100	95-100	90-100	30-45	10-25
	66-73	Loamy fine sand, clay loam, fine sandy loam, loam	SC, SC-SM	A-4	0	0	100	95-100	80-90	35-50	20-30	5-10
	73-93	Loamy sand, fine sand, loamy fine sand	SC-SM, SM, SP, SP-SM	A-2, A-2-4, A-3	0	0	93-100	80-100	75-95	4-35	0-20	NP-5
748A:												
Plano, sandy substratum-----	0-16	Silt loam	CL, ML	A-6	0	0	100	100	97-100	95-100	29-37	10-16
	16-48	Silty clay loam	CL, ML	A-6, A-7-6	0	0	100	100	97-100	95-100	37-46	16-24
	48-51	Stratified sandy loam to silt loam	CL	A-6	0	0	100	100	96-100	78-92	25-35	10-20
	51-80	Stratified sand to loamy sand	SP, SM, SP-SM	A-2-4, A-3, A-1-b	0	0	93-100	80-100	42-90	3-22	11-17	NP-4
748B:												
Plano, sandy substratum-----	0-16	Silt loam	CL, ML	A-6	0	0	100	100	97-100	95-100	29-37	10-16
	16-40	Silty clay loam	CL, ML	A-6, A-7-6	0	0	100	100	97-100	95-100	37-46	16-24
	40-51	Stratified sandy loam to silt loam	CL	A-6	0	0	100	100	96-100	78-92	25-35	10-20
	51-80	Stratified sand to loamy sand	SP, SM, SP-SM	A-2-4, A-3, A-1-b	0	0	93-100	80-100	42-90	3-22	11-17	NP-4
748C2:												
Plano, sandy substratum-----	0-8	Silt loam	CL, ML	A-6, A-7, A-4	0	0	100	100	90-100	85-100	30-45	5-20
	8-40	Silty clay loam, silt loam	CL	A-6, A-7, A-7-6	0	0	100	100	95-100	90-100	30-45	10-25
	40-48	Stratified sandy loam to silt loam	CL	A-6	0	0	100	100	96-100	78-92	25-35	10-20
	48-80	Stratified sand to loamy sand	SP, SM, SP-SM	A-2-4, A-3, A-1-b	0	0	93-100	80-100	42-90	3-22	11-17	NP-4

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
749B:												
Buckhart, till substratum-----	0-13	Silt loam	CL, ML	A-6, A-7-6, A-7-5	0	0	100	100	100	95-100	35-44	13-18
	13-59	Silty clay loam, silt loam	CL	A-7-5, A-7-6	0	0	100	100	100	95-100	40-50	15-25
	59-69	Silt loam	CL	A-6	0	0	100	100	100	95-100	27-38	12-19
	69-80	Loam	CL, CL-ML	A-4, A-6	0-1	0-3	90-100	85-95	70-90	50-70	22-33	4-14
802B:												
Orthents, loamy	0-6	Loam	CL	A-6, A-7-6	0-1	0-5	95-100	90-100	70-100	50-80	33-45	15-21
	6-60	Loam, silt loam, clay loam	CL	A-6, A-7-6	0-1	0-5	95-100	90-100	70-100	50-80	33-43	15-21
802E:												
Orthents, loamy	0-6	Loam	CL	A-6, A-7-6	0-1	0-5	95-100	90-100	70-100	50-80	33-45	15-21
	6-60	Loam, silt loam, clay loam	CL	A-6, A-7-6	0-1	0-5	95-100	90-100	70-100	50-80	33-43	15-21
827A:												
Broadwell-------	0-15	Silt loam	CL, CL-ML, ML	A-4, A-6, A-7-5, A-5, A-7-6	0	0	100	100	95-100	90-100	25-45	5-20
	15-50	Silty clay loam, silt loam	CL	A-6, A-7, A-7-6	0	0	100	100	95-100	90-100	30-45	10-25
	50-55	Fine sandy loam, loam, clay loam, loamy fine sand	SC, SC-SM	A-4	0	0	100	95-100	80-95	35-50	20-30	5-10
	55-80	Loamy sand, fine sand, sand, loamy fine sand	SC-SM, SM, SP, SP-SM	A-2, A-3, A-2-4	0	0	100	100	75-95	4-35	0-20	NP-5
Onarga----------	0-13	Fine sandy loam	SC, SC-SM, SM	A-2-4, A-2-6, A-4, A-6	0	0	100	100	75-95	25-50	15-28	2-12
	13-29	Loam, sandy loam, fine sandy loam	SC, SC-SM, CL, CL-ML	A-2-4, A-2-6, A-4, A-6	0	0	98-100	95-100	75-95	30-60	19-32	5-14
	29-60	Stratified sand to sandy loam	SM, SC-SM, SP-SM	A-2-4, A-4	0	0	95-100	90-100	65-95	5-40	10-20	NP-6

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
827B:												
Broadwell-------	0-15	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	25-45	5-20
	15-50	Silty clay loam, silt loam	CL	A-6, A-7, A-7-6	0	0	100	100	95-100	90-100	30-45	10-25
	50-55	Fine sandy loam, loam, clay loam, loamy fine sand	SC, SC-SM	A-4	0	0	100	95-100	80-95	35-50	20-30	5-10
	55-80	Loamy sand, fine sand, sand, loamy fine sand	SC-SM, SM, SP, SP-SM	A-2, A-3, A-2-4	0	0	100	100	75-95	4-35	0-20	NP-5
Onarga----------	0-13	Fine sandy loam	SC, SC-SM, SM	A-2-4, A-2-6, A-4, A-6	0	0	100	100	75-95	25-50	15-28	2-12
	13-29	Loam, sandy loam, fine sandy loam	SC, SC-SM, CL, CL-ML	A-2-4, A-2-6, A-4, A-6	0	0	98-100	95-100	75-95	30-60	19-32	5-14
	29-60	Stratified sand to sandy loam	SM, SC-SM, SP-SM	A-2-4, A-4	0	0	95-100	90-100	65-95	5-40	10-20	NP-6
827B2:												
Broadwell-------	0-8	Silt loam	CL, CL-ML, ML	A-4, A-6, A-7-6, A-7-5, A-5	0	0	100	100	95-100	90-100	25-45	5-20
	8-50	Silty clay loam, silt loam	CL	A-6, A-7, A-7-6, A-5, A-4	0	0	100	100	95-100	90-100	30-45	10-25
	50-55	Fine sandy loam, loam, clay loam, loamy fine sand	SC, SC-SM	A-4	0	0	100	95-100	80-95	35-50	20-30	5-10
	55-80	Loamy sand, fine sand, sand, loamy fine sand	SC-SM, SM, SP, SP-SM	A-2, A-3, A-2-4	0	0	100	100	75-95	4-35	0-20	NP-5
Onarga----------	0-8	Fine sandy loam	SC, SC-SM, SM	A-2-4, A-2-6, A-4, A-6	0	0	100	100	75-95	25-50	15-28	2-12
	8-29	Loam, sandy loam, fine sandy loam	SC, SC-SM, CL, CL-ML	A-2-4, A-2-6, A-4, A-6	0	0	98-100	95-100	75-95	30-60	19-32	5-14
	29-60	Stratified sand to sandy loam	SM, SC-SM, SP-SM	A-2-4, A-4	0	0	95-100	90-100	65-95	5-40	10-20	NP-6

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
828D2:												
Broadwell-------	0-8	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	25-45	5-20
	8-50	Silty clay loam, silt loam	CL	A-6, A-7, A-7-6	0	0	100	100	95-100	90-100	30-45	10-25
	50-55	Fine sandy loam, loam, clay loam, loamy fine sand	SC, SC-SM	A-4	0	0	100	95-100	80-95	35-50	20-30	5-10
	55-80	Loamy sand, fine sand, sand, loamy fine sand	SC-SM, SM, SP, SP-SM	A-2, A-3, A-2-4	0	0	100	100	75-95	4-35	0-20	NP-5
Sparta----------	0-8	Loamy fine sand	SM	A-4, A-2, A-2-4	0	0	85-100	85-100	50-95	5-50	0-14	NP
	8-34	Loamy fine sand, fine sand, sand, loamy sand	SM, SP-SM	A-2, A-3, A-4, A-2-4	0	0	85-100	85-100	50-95	5-50	0-14	NP
	34-60	Sand, fine sand	SM, SP, SP-SM	A-2, A-3, A-2-4	0	0	85-100	85-100	50-95	2-30	0-14	NP
830. Landfills												
861B2:												
Princeton-------	0-8	Fine sand	SM, SP, SP-SM	A-2-4, A-3	0	0	100	100	60-90	4-20	0-29	NP
	8-31	Sandy clay loam, fine sandy loam, loam	CL, SC	A-4, A-6	0	0	100	100	70-90	35-70	25-35	8-18
	31-80	Sand, loamy fine sand, fine sandy loam, loamy sand	SM, SC, SC-SM	A-2, A-4, A-6, A-2-4	0	0	100	100	60-90	5-50	15-25	3-15
Bloomfield------	0-6	Fine sand	SM, SP, SP-SM	A-2-4, A-3	0	0	100	100	60-90	4-20	0-29	NP
	6-25	Fine sand, loamy fine sand, sand	SM, SP, SP-SM	A-2-4, A-3	0	0	100	100	70-100	4-35	0-24	NP
	25-80	Fine sand, loamy fine sand, sand, fine sandy loam	SM, SP, SP-SM	A-2-4, A-3	0	0	100	100	65-100	4-35	16-27	NP-3
861D2:												
Princeton-------	0-8	Fine sand	SM, SP, SP-SM	A-2-4, A-3	0	0	100	100	60-90	4-20	0-29	NP
	8-31	Sandy clay loam, fine sandy loam, loam	CL, SC	A-4, A-6	0	0	100	100	70-90	35-70	25-35	8-18
	31-80	Sand, loamy fine sand, fine sandy loam, loamy sand	SM, SC, SC-SM	A-2, A-4, A-6, A-2-4	0	0	100	100	60-90	5-50	15-25	3-15

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
861D2:												
Bloomfield------	0-6	Fine sand	SM, SP, SP-SM	A-2-4, A-3	0	0	100	100	60-90	4-20	0-29	NP
	6-25	Fine sand, loamy fine sand, sand	SM, SP, SP-SM	A-2-4, A-3	0	0	100	100	70-100	4-35	0-24	NP
	25-80	Fine sand, loamy fine sand, sand, fine sandy loam	SM, SP, SP-SM	A-2-4, A-3	0	0	100	100	65-100	4-35	16-27	NP-3
861F:												
Princeton-------	0-8	Fine sand	SM, SP, SP-SM	A-2-4, A-3	0	0	100	100	60-90	4-20	0-29	NP
	8-31	Sandy clay loam, fine sandy loam, loam	CL, SC	A-4, A-6	0	0	100	100	70-90	35-70	25-35	8-18
	31-80	Sand, loamy fine sand, fine sandy loam, loamy sand	SM, SC, SC-SM	A-2, A-4, A-6, A-2-4	0	0	100	100	60-90	5-50	15-25	3-15
Bloomfield------	0-8	Fine sand	SM, SP, SP-SM	A-2-4, A-3	0	0	100	100	60-90	4-20	0-29	NP
	8-34	Fine sand, loamy fine sand, sand	SM, SP, SP-SM	A-2-4, A-3	0	0	100	100	70-100	4-35	0-24	NP
	34-60	Fine sand, loamy fine sand, sand, fine sandy loam	SM, SP, SP-SM	A-2-4, A-3	0	0	100	100	65-100	4-35	16-27	NP-3
864. Pits, quarries												
865. Pits, gravel												
871B:												
Lenzburg--------	0-5	Silt loam, loam	CL	A-7-6, A-6	0-1	2-10	80-100	75-100	65-100	40-85	32-42	13-19
	5-37	Silt loam, silty clay loam, clay loam	CL	A-6, A-7-6	0-2	2-10	80-95	75-90	65-90	40-80	31-47	13-25
	37-80	Silty clay loam, silt loam, gravelly loam, channery clay loam	CL	A-6, A-7-6	0-2	5-15	75-95	70-90	60-90	35-80	31-47	13-25
871D:												
Lenzburg--------	0-5	Silty clay loam	CL	A-6, A-7-6	0-1	2-10	80-100	75-100	65-100	40-85	32-47	13-25
	5-37	Silt loam, silty clay loam, clay loam	CL	A-6, A-7-6	0-2	2-10	80-95	75-90	65-90	40-80	31-47	13-25
	37-80	Silty clay loam, silt loam, gravelly loam, channery clay loam	CL	A-6, A-7-6	0-2	5-15	75-95	70-90	60-90	35-80	31-47	13-25

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
898F2:												
Hickory---------	0-12	Loam	CL	A-4, A-6	0	0-5	95-100	90-100	90-100	75-95	20-35	8-15
	12-48	Clay loam, silty clay loam, gravelly clay loam	CL	A-6, A-7	0-1	0-5	85-100	70-100	65-95	50-85	30-50	15-30
	48-60	Clay loam, loam, gravelly clay loam	CL, CL-ML, SC, SC-SM	A-6, A-4, A-2	0-1	0-5	85-100	70-95	45-95	25-75	20-40	5-20
Sylvan----------	0-6	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	95-100	25-35	6-15
	6-28	Silty clay loam, silt loam	CL	A-7, A-6	0	0	100	100	95-100	95-100	35-50	20-30
	28-60	Silt loam, silt	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	20-40	5-20
965C2:												
Tallula---------	0-12	Silt loam	CL, CL-ML, ML	A-4, A-6, A-7	0	0	100	100	100	95-100	20-45	NP-20
	12-21	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	100	90-100	20-40	NP-20
	21-31	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	100	90-100	20-40	NP-20
	31-60	Silt loam, silt	CL, CL-ML, ML	A-4, A-6	0	0	100	100	100	85-100	20-35	NP-15
Bold----------	0-8	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	100	90-100	20-35	3-15
	8-60	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	100	90-100	20-35	3-15
965D2:												
Tallula---------	0-10	Silt loam	CL, CL-ML, ML	A-4, A-6, A-7	0	0	100	100	100	95-100	20-45	NP-20
	10-26	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	100	90-100	20-40	NP-20
	26-60	Silt loam, silt	CL, CL-ML, ML	A-4, A-6	0	0	100	100	100	85-100	20-35	NP-15
Bold----------	0-8	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	100	90-100	20-35	3-15
	8-60	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	100	90-100	20-35	3-15
3073A:												
Ross----------	0-13	Silt loam	ML, CL	A-4, A-6, A-7-6	0	0	90-100	90-100	80-100	55-80	29-45	9-18
	13-43	Loam, silt loam	CL	A-6	0	0	90-100	85-100	75-100	50-85	29-43	12-18
	43-60	Stratified sandy loam to silt loam	SC-SM, SM, SC, CL-ML, CL, ML	A-2-4, A-4, A-2-6, A-6	0	0-5	85-100	75-100	65-100	25-70	17-33	2-13
3074A:												
Radford---------	0-12	Silt loam	ML, CL	A-6, A-7-6	0	0	100	100	95-100	85-100	31-45	11-18
	12-33	Silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	85-100	27-41	12-19
	33-80	Silt loam, silty clay loam, clay loam	CL	A-6, A-7-6	0	0	100	100	95-100	70-95	32-45	16-25

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
3077A:												
Huntsville------	0-43	Silt loam	CL, ML	A-6, A-7-5, A-7-6	0	0	100	95-100	90-100	85-100	31-45	11-18
	43-60	Silt loam, loam	CL	A-6	0	0	100	95-100	90-100	85-100	27-38	12-19
3107+:												
Sawmill---------	0-11	Silt loam	CL	A-6	0	0	100	100	95-100	85-100	25-40	10-20
	11-36	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	30-50	15-30
	36-53	Silty clay loam, clay loam, loam	CL	A-4, A-6, A-7	0	0	100	100	95-100	70-95	25-50	8-25
	53-60	Silty clay loam, clay loam, silt loam	CL	A-4, A-6, A-7	0	0	100	100	85-100	70-95	20-50	8-30
3107A:												
Sawmill---------	0-10	Silty clay loam	CL, ML, MH	A-7-6, A-7-5	0	0	100	100	95-100	85-100	46-60	18-24
	10-32	Silty clay loam	CL, ML, MH	A-7-6, A-7-5	0	0	100	100	95-100	85-100	46-60	18-24
	32-58	Silty clay loam	CL	A-7-6, A-6	0	0	100	100	95-100	80-95	40-52	19-25
	58-65	Silty clay loam, clay loam	CL	A-7-6, A-6	0	0	100	97-100	90-100	80-95	36-52	17-25
3107S:												
Sawmill, sandy substratum-----	0-17	Silty clay loam	CL, ML	A-7-6	0	0	100	97-100	95-100	85-100	40-46	16-21
	17-24	Silty clay loam	CL, ML	A-7-6	0	0	100	97-100	95-100	85-100	40-46	16-21
	24-57	Silty clay loam	CL, ML	A-7-6, A-6	0	0	100	97-100	85-100	80-95	37-46	16-22
	57-80	Loamy fine sand, fine sand, loamy sand, sand	SC, SC-SM, SM, SP-SM	A-2, A-3, A-4, A-2-4	0	0	100	90-100	75-95	5-40	0-20	NP-10
3284A:												
Tice------------	0-14	Silty clay loam	CL	A-6, A-7	0	0	100	100	90-100	80-95	30-45	10-25
	14-52	Silty clay loam, silt loam	CH, CL	A-7, A-7-6	0	0	100	100	95-100	85-95	40-55	15-30
	52-72	Stratified loam to silty clay loam	CL, CL-ML	A-4, A-6, A-7	0	0	100	100	60-95	55-80	25-45	5-20
3284S:												
Tice, sandy substratum-----	0-21	Silty clay loam	CL	A-6, A-7	0	0	100	100	90-100	80-95	30-45	10-25
	21-57	Silty clay loam, silt loam	CH, CL	A-7, A-7-6	0	0	100	100	95-100	85-95	40-55	15-30
	57-80	Loamy fine sand, fine sand, loamy sand, sand	SC, SC-SM, SM, SP-SM	A-2, A-4, A-3, A-2-4	0	0	100	90-100	75-95	5-40	0-20	NP-10

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
3304A:												
Landes----------	0-14	Fine sandy loam	SC, SC-SM, SM, ML, CL-ML, CL	A-2-4, A-4	0	0	100	70-100	63-100	20-70	0-25	NP-10
	14-32	Loam, very fine sandy loam, fine sandy loam	SC-SM, SM, CL-ML, SC, CL, ML	A-2-4, A-4	0	0	100	85-100	76-100	20-70	0-25	NP-10
	32-60	Stratified sand to loamy sand	SC, SC-SM, SM, ML, CL-ML, CL	A-2-4, A-4	0	0	100	85-100	62-100	13-70	0-30	NP-10
3405A:												
Zook------------	0-8	Silty clay loam	MH, CH, CL	A-7-6, A-7-5	0	0	100	100	95-100	90-100	45-60	20-30
	8-55	Silty clay, silty clay loam	MH, CH	A-7-6, A-7-5	0	0	100	100	95-100	90-100	50-65	20-35
	55-60	Silty clay loam, silty clay loam, silt loam	CL	A-7-6, A-6	0	0	100	100	95-100	90-100	35-50	15-30
3408A:												
Aquents, loamy--	0-9	Loam	CL, ML	A-6, A-4	0	0	100	100	75-90	40-75	15-35	2-17
	9-18	Loamy sand, loamy fine sand, fine sand	SM, SC-SM, SP-SM	A-2-4, A-3	0	0	100	100	55-80	7-25	9-15	NP-5
	18-41	Silt loam	CL	A-6, A-4	0	0	100	100	95-100	90-100	25-40	10-25
	41-60	Silty clay loam, clay loam, loam	CL	A-5, A-6, A-4, A-7-5	0	0	100	100	85-100	70-95	25-50	8-25
3451A:												
Lawson----------	0-14	Silt loam	ML, CL, CL-ML	A-4, A-6, A-7-6	0	0	100	100	95-100	85-100	25-45	6-18
	14-33	Silt loam, silty clay loam	ML, CL, CL-ML	A-6, A-7-6, A-4	0	0	100	100	95-100	85-100	25-47	6-21
	33-80	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	90-100	60-100	27-41	12-21
7148A:												
Proctor---------	0-16	Silt loam	CL	A-6	0	0	100	100	95-100	90-100	25-40	10-20
	16-34	Silty clay loam	CL	A-6, A-7	0	0	100	95-100	85-100	85-100	25-50	10-25
	34-53	Clay loam, loam, sandy loam	CL, CL-ML, SC, SC-SM	A-2, A-4, A-6, A-7	0	0	90-100	85-100	75-100	30-80	20-45	5-25
	53-60	Stratified sandy loam to loamy sand	SC, SC-SM, SM	A-2-4, A-4	0	0	85-100	80-100	50-100	25-50	0-25	NP-10

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
7191A:												
Knight----------	0-14	Silt loam	CL	A-4, A-6	0	0	100	95-100	90-95	85-95	30-40	8-15
	14-25	Silt loam	CL	A-6, A-4	0	0	100	95-100	90-95	85-95	30-40	10-15
	25-68	Silty clay loam, silt loam	CL	A-6, A-7-5, A-7-6, A-4	0	0	100	95-100	90-95	85-95	30-45	10-20
	68-80	Stratified clay loam to sandy loam to silt loam	CL, ML, SC-SM	A-4, A-6, A-2-6, A-2-4	0	0-5	100	95-100	70-90	30-85	13-40	5-15
7198A:												
Elburn----------	0-16	Silt loam	CL, ML	A-6, A-7-6, A-7-5	0	0	100	100	97-100	95-100	38-47	14-18
	16-49	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	97-100	95-100	36-48	17-25
	49-58	Stratified sandy loam to silt loam	CL	A-4, A-6	0	0	95-100	95-100	85-100	55-80	25-32	9-13
	58-62	Stratified sandy loam to loamy sand	SC, SC-SM, SM	A-2-4, A-4	0	0	95-100	90-100	60-100	20-50	16-27	2-10
7199A:												
Plano----------	0-14	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	95-100	90-100	20-30	5-15
	14-49	Silty clay loam, silt loam	CL	A-6	0	0	100	100	95-100	90-100	25-40	10-25
	49-60	Loam, clay loam, sandy loam	CL, ML, SC, SM	A-4, A-6	0	0-1	90-100	85-95	60-90	40-65	30-45	10-25
	60-72	Stratified loamy sand to silt loam	SC, SM, CL, ML, SC-SM, CL-ML	A-2-4, A-4	0	0-5	90-100	70-95	40-80	15-55	20-25	NP-10
7304A:												
Landes----------	0-19	Fine sandy loam	SC-SM, SC, SM	A-4, A-2-4	0	0	100	85-100	85-95	30-60	5-25	NP-10
	19-32	Loam, very fine sandy loam, loamy fine sand, fine sandy loam	SC-SM, SC, SM, CL-ML	A-2-4, A-4	0	0	100	85-100	70-95	15-60	0-25	NP-10
	32-60	Fine sandy loam, loamy fine sand, sand	SC-SM, SC, SM, SP-SM	A-2-4, A-4	0	0	100	85-100	60-85	5-50	0-30	NP-10
8074A:												
Radford----------	0-21	Silt loam	CL, ML, CL-ML	A-4, A-6	0	0	100	97-100	95-100	85-100	24-37	5-15
	21-29	Stratified silt loam to silty clay loam	CL	A-6, A-4	0	0	100	97-100	95-100	85-100	24-37	7-17
	29-60	Silty clay loam	CL	A-7-6	0	0	100	97-100	95-100	85-100	40-46	16-21

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
8107+:												
Sawmill---------	0-14	Silt loam	CL	A-6	0	0	100	100	95-100	85-100	25-40	10-20
	14-47	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	30-50	15-30
	47-60	Silty clay loam, clay loam, loam	CL	A-4, A-6, A-7	0	0	100	100	95-100	70-95	25-50	8-25
8107A:												
Sawmill---------	0-26	Silty clay loam	CL, ML	A-7-6	0	0	100	97-100	95-100	85-100	40-46	16-21
	26-53	Silty clay loam	CL	A-7-6, A-6	0	0	100	97-100	85-100	80-95	37-46	16-22
	53-60	Silty clay loam, clay loam	CL	A-7-6, A-6	0	0	100	97-100	85-100	80-95	37-46	16-22
8284A:												
Tice------------	0-14	Silty clay loam	CL	A-6, A-7	0	0	100	100	90-100	80-95	30-45	10-20
	14-80	Silty clay loam, silt loam	CH, CL	A-7	0	0	100	100	95-100	85-95	40-55	15-30
8451A:												
Lawson----------	0-28	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	98-100	90-100	85-100	24-37	4-13
	28-60	Silt loam	CL, ML	A-4, A-6	0	0	100	98-100	90-100	85-100	24-37	7-17
8452A:												
Riley-----------	0-8	Loam	CL	A-6	0	0	100	100	85-100	60-75	27-38	8-18
	8-24	Clay loam, sandy clay loam, silty clay loam	CL, SC	A-6, A-7-6	0	0	100	100	85-100	45-85	33-47	16-26
	24-31	Loam, clay loam, sandy clay loam	CL, SC	A-6, A-7-6	0	0	100	100	85-100	45-85	33-47	15-25
	31-60	Sand, loamy sand, sandy loam	SC-SM, SM, SP-SM	A-2-4, A-4	0	0	100	100	50-80	6-36	0-17	NP-1

Table 20.--Physical Properties of the Soils

(Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer. Absence of an entry indicates that data were not estimated)

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
16A:														
Rushville	0-7	0-7	66-85	15-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	7-13	0-7	71-90	10-22	1.30-1.50	0.06-0.2	0.15-0.20	0.0-2.9	0.0-1.0	.55	.55			
	13-32	0-7	45-65	35-48	1.30-1.50	0.01-0.06	0.09-0.20	6.0-8.9	0.0-0.5	.37	.37			
	32-50	0-7	51-70	30-42	1.40-1.60	0.01-0.2	0.11-0.20	6.0-8.9	0.0-0.5	.37	.37			
	50-80	0-7	63-82	18-30	1.40-1.55	0.06-0.6	0.16-0.21	0.0-2.9	0.0-0.5	.49	.49			
17A:														
Keomah	0-11	0-7	67-84	16-26	1.35-1.45	0.6-2	0.19-0.24	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	11-18	0-7	67-84	16-26	1.40-1.60	0.2-0.6	0.17-0.21	0.0-2.9	0.1-1.0	.49	.49			
	18-33	0-7	51-65	35-42	1.30-1.40	0.06-0.2	0.15-0.19	6.0-8.9	0.1-0.5	.37	.37			
	33-51	0-7	58-73	27-35	1.35-1.45	0.2-0.6	0.16-0.20	3.0-5.9	0.1-0.5	.37	.37			
	51-89	0-7	66-85	15-27	1.40-1.60	0.2-2	0.19-0.22	0.0-2.9	0.0-0.2	.49	.49			
27D2:														
Miami	0-4	15-20	53-65	20-27	1.35-1.55	0.6-2	0.14-0.17	0.0-2.9	0.5-2.0	.43	.43	5	6	48
	4-12	15-20	45-58	27-35	1.45-1.65	0.6-2	0.14-0.17	3.0-5.9	0.2-0.5	.32	.32			
	12-28	20-40	25-53	27-35	1.50-1.70	0.6-2	0.14-0.17	3.0-5.9	0.2-0.5	.24	.28			
	28-33	20-40	25-53	27-35	1.50-1.70	0.6-2	0.14-0.17	3.0-5.9	0.1-0.5	.24	.28			
	33-60	30-50	30-50	10-20	1.65-1.85	0.2-0.6	0.06-0.12	0.0-2.9	0.0-0.3	.37	.43			
36A:														
Tama	0-19	0-7	66-76	24-27	1.25-1.30	0.6-2	0.22-0.24	3.0-5.9	3.0-4.0	.28	.28	5	6	48
	19-58	0-7	58-73	27-35	1.30-1.35	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.37	.37			
	58-80	0-7	66-78	22-27	1.35-1.40	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.49	.49			
36B:														
Tama	0-19	0-7	66-76	24-27	1.25-1.30	0.6-2	0.22-0.24	3.0-5.9	3.0-4.0	.28	.28	5	6	48
	19-58	0-7	58-73	27-35	1.30-1.35	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.37	.37			
	58-80	0-7	66-78	22-27	1.35-1.40	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.49	.49			
36C2:														
Tama	0-8	0-7	66-76	24-27	1.25-1.30	0.6-2	0.22-0.24	3.0-5.9	2.0-3.0	.37	.37	5	6	48
	8-30	0-7	58-73	27-35	1.30-1.35	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.37	.37			
	30-60	0-7	66-78	22-27	1.35-1.40	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.49	.49			
36D2:														
Tama	0-8	0-7	66-76	24-27	1.25-1.30	0.6-2	0.22-0.24	3.0-5.9	2.0-3.0	.37	.37	5	6	48
	8-30	0-7	58-73	27-35	1.30-1.35	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.37	.37			
	30-60	0-7	66-78	22-27	1.35-1.40	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.49	.49			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
43A:														
Ipava	0-10	2-7	66-83	15-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	3.5-5.0	.28	.28	5	6	48
	10-18	2-7	58-71	27-35	1.20-1.40	0.6-2	0.18-0.21	3.0-5.9	1.5-3.5	.24	.24			
	18-31	2-7	48-63	35-45	1.30-1.50	0.2-0.6	0.15-0.18	6.0-8.9	0.5-1.5	.37	.37			
	31-50	2-7	58-71	27-35	1.35-1.55	0.6-2	0.18-0.21	3.0-5.9	0.1-0.5	.37	.37			
	50-60	2-7	66-83	15-27	1.40-1.60	0.6-2	0.19-0.26	0.0-2.9	0.0-0.5	.49	.49			
45A:														
Denny	0-8	0-7	66-80	20-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	2.0-3.0	.37	.37	5	6	48
	8-21	0-7	71-85	15-22	1.25-1.45	0.2-0.6	0.18-0.20	0.0-2.9	0.0-0.5	.43	.43			
	21-46	0-7	48-65	35-45	1.20-1.40	0.06-0.2	0.11-0.22	6.0-8.9	0.0-1.0	.37	.37			
	46-80	0-7	58-75	25-35	1.40-1.60	0.2-0.6	0.20-0.22	3.0-5.9	0.0-0.5	.43	.43			
67A:														
Harpster	0-18	3-15	50-70	27-35	1.20-1.40	0.6-2	0.19-0.22	3.0-5.9	3.5-6.0	.24	.24	5	4L	86
	18-41	3-15	50-70	27-35	1.35-1.55	0.6-2	0.18-0.21	3.0-5.9	0.8-1.5	.37	.37			
	41-56	3-27	58-82	15-27	1.40-1.60	0.6-2	0.19-0.26	0.0-2.9	0.5-1.0	.49	.49			
	56-60	30-50	28-55	15-27	1.45-1.65	0.6-2	0.10-0.20	0.0-2.9	0.1-0.5	.37	.37			
68A:														
Sable	0-23	1-7	58-72	27-35	1.15-1.35	0.6-2	0.17-0.22	3.0-5.9	4.5-6.0	.24	.24	5	6	48
	23-38	1-7	58-72	27-35	1.35-1.45	0.6-2	0.13-0.21	3.0-5.9	0.5-1.5	.37	.37			
	38-47	1-7	66-75	24-27	1.30-1.50	0.6-2	0.13-0.23	0.0-2.9	0.1-0.5	.49	.49			
	47-60	1-7	66-79	20-27	1.40-1.60	0.6-2	0.19-0.26	0.0-2.9	0.0-0.5	.55	.55			
86B:														
Osco	0-14	0-7	67-80	20-26	1.25-1.30	0.6-2	0.22-0.24	0.0-2.9	3.0-4.0	.28	.28	5	6	48
	14-55	0-7	58-76	24-35	1.30-1.35	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.37	.37			
	55-60	0-7	63-80	20-30	1.35-1.40	0.6-2	0.18-0.20	0.0-2.9	0.0-0.5	.49	.49			
86C2:														
Osco	0-9	0-7	67-80	20-26	1.25-1.30	0.6-2	0.22-0.24	3.0-5.9	2.0-3.0	.37	.37	5	6	48
	9-34	0-7	58-76	24-35	1.30-1.35	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.37	.37			
	34-60	0-7	63-80	20-30	1.35-1.40	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.49	.49			
134C2:														
Camden	0-7	2-7	66-83	15-27	1.35-1.55	0.6-2	0.19-0.24	0.0-2.9	0.5-2.0	.43	.43	5	6	48
	7-34	2-7	58-71	25-35	1.35-1.55	0.6-2	0.18-0.21	3.0-5.9	0.1-0.5	.37	.37			
	34-43	30-50	28-48	22-30	1.45-1.65	0.6-2	0.11-0.14	0.0-2.9	0.0-0.5	.32	.32			
	43-80	65-80	10-25	5-15	1.45-1.65	2-6	0.06-0.10	0.0-2.9	0.0-0.3	.28	.28			
134C3:														
Camden	0-7	2-7	58-71	27-35	1.30-1.45	0.6-2	0.18-0.22	3.0-5.9	0.2-1.0	.37	.37	4	6	48
	7-34	2-7	58-71	25-35	1.35-1.55	0.6-2	0.18-0.21	3.0-5.9	0.1-0.5	.37	.37			
	34-43	30-50	28-48	22-30	1.45-1.65	0.6-2	0.11-0.14	0.0-2.9	0.0-0.5	.32	.32			
	43-80	65-80	10-25	5-15	1.45-1.65	2-6	0.06-0.10	0.0-2.9	0.0-0.5	.28	.28			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
138A:														
Shiloh	0-27	0-7	53-65	35-42	1.30-1.50	0.2-0.6	0.18-0.21	6.0-8.9	4.0-6.0	.24	.24	5	4	86
	27-52	0-7	48-65	35-45	1.35-1.55	0.2-0.6	0.09-0.18	6.0-8.9	0.5-2.0	.37	.37			
	52-80	0-7	58-75	24-35	1.30-1.50	0.2-0.6	0.18-0.20	0.0-2.9	0.2-0.5	.43	.43			
148B:														
Proctor	0-11	0-10	63-82	18-27	1.10-1.30	0.6-2	0.22-0.24	0.0-2.9	3.0-4.0	.28	.28	5	6	48
	11-28	0-10	55-75	25-35	1.20-1.45	0.6-2	0.18-0.20	3.0-5.9	0.5-2.0	.37	.37			
	28-33	15-70	0-67	18-32	1.30-1.55	0.6-2	0.13-0.16	3.0-5.9	0.2-1.0	.32	.32			
	33-60	15-85	0-80	5-20	1.40-1.70	0.6-6	0.07-0.19	0.0-2.9	0.2-0.5	.28	.28			
148C2:														
Proctor	0-8	2-15	58-78	20-27	1.40-1.60	0.6-2	0.22-0.24	0.0-2.9	1.5-3.5	.37	.37	5	6	48
	8-28	2-15	50-70	27-35	1.35-1.55	0.6-2	0.18-0.20	3.0-5.9	0.5-1.5	.37	.37			
	28-33	15-70	0-67	18-32	1.30-1.55	0.6-2	0.13-0.16	3.0-5.9	0.2-1.0	.32	.32			
	33-60	15-85	0-80	5-20	1.40-1.70	0.6-6	0.07-0.19	0.0-2.9	0.2-0.5	.28	.28			
148D2:														
Proctor	0-8	2-15	58-78	20-27	1.40-1.60	0.6-2	0.22-0.24	0.0-2.9	1.5-3.5	.37	.37	5	6	48
	8-28	2-15	50-70	27-35	1.35-1.55	0.6-2	0.18-0.20	3.0-5.9	0.5-1.5	.37	.37			
	28-33	15-70	0-67	18-32	1.30-1.55	0.6-2	0.13-0.16	3.0-5.9	0.2-1.0	.32	.32			
	33-60	15-85	0-80	5-20	1.40-1.70	0.6-6	0.07-0.19	0.0-2.9	0.2-0.5	.28	.28			
149A:														
Brenton	0-14	2-15	58-82	15-27	1.25-1.45	0.6-2	0.16-0.22	0.0-2.9	3.5-5.0	.28	.28	5	6	48
	14-33	2-15	50-70	27-35	1.35-1.55	0.6-2	0.13-0.19	3.0-5.9	0.5-1.5	.37	.37			
	33-45	40-55	30-45	15-27	1.50-1.70	0.6-2	0.13-0.17	0.0-2.9	0.2-0.5	.32	.32			
	45-80	15-50	28-65	10-27	1.45-1.65	0.6-2	0.11-0.14	0.0-2.9	0.1-0.5	.32	.32			
152A:														
Drummer	0-14	3-15	50-70	27-35	1.20-1.40	0.6-2	0.12-0.18	3.0-5.9	4.5-7.0	.24	.24	5	6	48
	14-41	3-15	50-70	27-35	1.35-1.55	0.6-2	0.13-0.19	3.0-5.9	0.8-2.0	.37	.37			
	41-47	25-45	28-50	20-27	1.45-1.65	0.6-2	0.11-0.17	0.0-2.9	0.2-0.5	.32	.32			
	47-60	45-65	25-45	10-20	1.55-1.75	0.6-2	0.11-0.17	0.0-2.9	0.1-0.3	.24	.24			
159B:														
Pillot	0-15	0-10	63-80	20-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	3.0-4.0	.28	.28	4	6	48
	15-32	0-10	55-76	24-35	1.35-1.60	0.6-2	0.14-0.24	3.0-5.9	0.0-1.0	.37	.37			
	32-36	40-80	0-35	10-28	1.30-1.35	2-6	0.11-0.17	0.0-2.9	0.0-0.5	.32	.32			
	36-60	75-90	0-22	3-10	1.55-1.75	6-20	0.08-0.11	0.0-2.9	0.0-0.5	.15	.15			
159C2:														
Pillot	0-8	0-10	63-80	20-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	2.0-4.0	.37	.37	4	6	48
	8-32	0-10	55-76	24-35	1.35-1.60	0.6-2	0.14-0.24	3.0-5.9	0.0-1.0	.37	.37			
	32-36	40-80	0-35	10-28	1.30-1.35	2-6	0.11-0.17	0.0-2.9	0.0-0.5	.32	.32			
	36-60	75-90	0-22	3-10	1.55-1.75	6-20	0.08-0.11	0.0-2.9	0.0-0.5	.15	.15			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
171B:														
Catlin	0-11	1-7	66-81	18-27	1.30-1.40	0.6-2	0.19-0.23	0.0-2.9	2.5-4.0	.37	.37	5	6	48
	11-16	1-7	58-72	27-35	1.25-1.40	0.6-2	0.17-0.20	3.0-5.9	1.5-3.5	.37	.37			
	16-41	2-8	58-70	27-35	1.35-1.45	0.6-2	0.18-0.21	3.0-5.9	0.5-1.5	.37	.37			
	41-45	20-40	25-53	27-35	1.45-1.55	0.6-2	0.12-0.16	3.0-5.9	0.1-0.5	.28	.28			
	45-60	30-40	33-50	15-27	1.65-1.85	0.2-0.6	0.08-0.12	0.0-2.9	0.1-0.5	.37	.37			
171C2:														
Catlin	0-9	2-7	66-78	20-27	1.40-1.60	0.6-2	0.18-0.22	0.0-2.9	1.5-3.5	.37	.37	5	6	48
	9-40	2-7	58-71	27-35	1.35-1.55	0.6-2	0.18-0.21	3.0-5.9	0.5-1.5	.37	.37			
	40-50	3-15	58-72	25-35	1.30-1.50	0.6-2	0.18-0.21	3.0-5.9	0.1-0.5	.37	.37			
	50-55	20-40	25-53	27-35	1.50-1.70	0.6-2	0.12-0.16	3.0-5.9	0.1-0.5	.28	.32			
	55-60	20-40	30-53	27-30	1.65-1.85	0.2-0.6	0.06-0.12	3.0-5.9	0.0-0.5	.37	.37			
171D2:														
Catlin	0-9	1-7	66-81	18-27	1.40-1.60	0.6-2	0.18-0.22	0.0-2.9	1.5-3.5	.37	.37	5	6	48
	9-40	1-7	58-72	27-35	1.35-1.55	0.6-2	0.18-0.21	3.0-5.9	0.5-1.5	.37	.37			
	40-50	2-8	58-70	25-35	1.30-1.50	0.6-2	0.18-0.21	3.0-5.9	0.1-0.5	.37	.37			
	50-55	20-40	25-53	27-35	1.50-1.70	0.6-2	0.12-0.16	3.0-5.9	0.1-0.5	.28	.32			
	55-60	20-40	30-53	27-30	1.65-1.85	0.2-0.6	0.06-0.12	3.0-5.9	0.0-0.5	.37	.43			
191A:														
Knight	0-10	2-10	63-78	20-27	1.10-1.30	0.6-2	0.22-0.24	0.0-2.9	3.0-4.0	.28	.28	5	6	48
	10-22	3-10	65-79	18-25	1.20-1.40	0.2-0.6	0.20-0.22	0.0-2.9	0.0-1.0	.43	.43			
	22-70	3-10	55-75	22-35	1.30-1.50	0.2-0.6	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
	70-80	20-75	20-50	5-30	1.40-1.70	0.6-2	0.08-0.16	0.0-2.9	0.0-0.4	.28	.32			
198A:														
Elburn	0-16	2-7	66-76	22-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	3.5-5.0	.28	.28	5	6	48
	16-49	2-7	58-73	25-35	1.35-1.55	0.6-2	0.18-0.21	3.0-5.9	0.5-1.5	.37	.37			
	49-58	30-55	30-55	15-20	1.45-1.65	0.6-2	0.14-0.17	0.0-2.9	0.1-0.5	.37	.37			
	58-62	60-80	10-25	5-15	1.50-1.70	2-6	0.06-0.10	0.0-2.9	0.1-0.5	.24	.24			
199A:														
Plano	0-14	0-10	63-82	18-27	1.10-1.30	0.6-2	0.22-0.24	0.0-2.9	3.0-4.0	.28	.28	5	6	48
	14-49	0-10	55-80	20-35	1.20-1.40	0.6-2	0.18-0.20	3.0-5.9	0.2-1.0	.37	.37			
	49-60	30-70	10-50	15-32	1.50-1.70	0.6-6	0.09-0.16	0.0-2.9	0.1-0.5	.28	.28			
	60-80	39-89	3-51	5-20	1.60-1.80	2-6	0.09-0.14	0.0-2.9	0.1-0.5	.20	.20			
199B:														
Plano	0-15	0-10	63-82	18-27	1.10-1.30	0.6-2	0.22-0.24	0.0-2.9	3.0-4.0	.28	.28	5	6	48
	15-45	0-10	55-80	20-35	1.35-1.55	0.6-2	0.16-0.20	3.0-5.9	0.2-1.0	.37	.37			
	45-55	30-70	10-50	15-32	1.50-1.70	0.6-6	0.09-0.16	0.0-2.9	0.1-0.5	.28	.28			
	55-80	39-89	3-51	5-20	1.60-1.80	2-6	0.09-0.14	0.0-2.9	0.1-0.5	.20	.20			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
199C2:														
Plano	0-8	0-10	63-82	18-27	1.10-1.30	0.6-2	0.22-0.24	0.0-2.9	2.0-4.0	.37	.37	5	6	48
	8-41	0-10	55-80	20-35	1.20-1.40	0.6-2	0.18-0.20	3.0-5.9	0.2-1.0	.37	.37			
	41-53	30-70	10-50	15-32	1.50-1.70	0.6-6	0.09-0.16	0.0-2.9	0.1-0.5	.28	.28			
	53-80	39-89	3-51	5-20	1.60-1.80	2-6	0.09-0.14	0.0-2.9	0.1-0.5	.20	.20			
206A:														
Thorp	0-14	2-15	58-78	20-27	1.15-1.35	0.2-0.6	0.22-0.24	0.0-2.9	4.0-6.0	.28	.28	5	6	48
	14-19	3-15	60-79	18-25	1.30-1.50	0.2-0.6	0.20-0.22	0.0-2.9	0.5-1.0	.43	.43			
	19-43	3-15	50-75	22-35	1.35-1.55	0.06-0.2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
	43-50	10-55	15-72	18-30	1.40-1.60	0.06-0.2	0.15-0.22	3.0-5.9	0.0-0.5	.32	.32			
	50-65	15-75	1-80	5-30	1.50-1.70	2-6	0.05-0.13	0.0-2.9	0.0-0.5	.28	.28			
212C2:														
Thebes	0-9	5-15	60-80	15-25	1.30-1.35	0.6-2	0.20-0.22	0.0-2.9	1.0-2.0	.43	.43	4	6	48
	9-31	0-15	50-75	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
	31-39	38-60	13-35	15-27	1.35-1.55	0.6-2	0.12-0.19	0.0-2.9	0.0-0.5	.32	.32			
	39-80	70-90	0-27	3-10	1.45-1.65	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.15	.15			
233B:														
Birkbeck	0-4	2-7	66-80	18-27	1.40-1.60	0.6-2	0.17-0.21	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	4-9	2-7	66-83	15-27	1.40-1.60	0.6-2	0.17-0.21	0.0-2.9	0.3-1.0	.49	.49			
	9-54	2-7	58-71	27-35	1.35-1.55	0.6-2	0.16-0.20	3.0-5.9	0.2-0.5	.37	.37			
	54-60	30-50	28-50	20-27	1.45-1.65	0.6-2	0.11-0.14	0.0-2.9	0.1-0.5	.32	.32			
	60-68	30-50	28-50	17-27	1.65-1.85	0.2-0.6	0.08-0.12	0.0-2.9	0.1-0.5	.37	.37			
233C2:														
Birkbeck	0-7	2-7	66-78	20-27	1.40-1.60	0.6-2	0.17-0.21	0.0-2.9	0.5-2.5	.43	.43	5	6	48
	7-46	2-7	58-71	27-35	1.35-1.55	0.6-2	0.16-0.20	3.0-5.9	0.1-0.5	.37	.37			
	46-57	30-50	28-50	20-27	1.45-1.65	0.6-2	0.11-0.14	0.0-2.9	0.1-0.5	.32	.37			
	57-60	30-50	28-50	17-27	1.65-1.85	0.2-0.6	0.06-0.12	0.0-2.9	0.0-0.5	.37	.43			
243A:														
St. Charles	0-8	0-7	66-80	20-27	1.15-1.30	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	8-50	0-7	58-73	25-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
	50-60	30-60	25-50	15-30	1.30-1.50	0.6-2	0.11-0.16	0.0-2.9	0.0-0.5	.32	.32			
243B:														
St. Charles	0-8	0-10	63-80	20-27	1.15-1.30	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	8-50	0-10	55-73	25-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
	50-60	30-60	25-50	15-30	1.30-1.50	0.6-6	0.11-0.16	0.0-2.9	0.0-0.5	.32	.32			
243C2:														
St. Charles	0-8	0-10	63-80	20-27	1.15-1.30	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.43	.43	5	6	48
	8-41	0-10	55-73	25-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
	41-60	30-60	25-50	15-30	1.30-1.50	0.6-2	0.11-0.16	0.0-2.9	0.0-0.5	.32	.32			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
244A:														
Hartsburg----------	0-17	2-7	58-71	27-35	1.20-1.40	0.6-2	0.12-0.18	3.0-5.9	4.5-6.0	.24	.24	5	6	48
	17-34	2-7	58-71	25-35	1.35-1.55	0.6-2	0.13-0.19	3.0-5.9	0.5-2.0	.37	.37			
	34-60	3-15	66-82	15-27	1.45-1.65	0.6-2	0.16-0.22	0.0-2.9	0.1-0.5	.49	.49			
257A:														
Clarksdale----------	0-8	0-7	66-80	20-27	1.30-1.50	0.6-2	0.22-0.25	3.0-5.9	2.0-3.0	.37	.37	5	6	48
	8-16	0-7	66-85	15-27	1.25-1.50	0.2-0.6	0.20-0.22	0.0-2.9	0.0-1.0	.43	.43			
	16-47	0-7	48-65	35-45	1.30-1.50	0.2-0.6	0.11-0.20	6.0-8.9	0.0-0.5	.37	.37			
	47-67	0-7	63-80	20-30	1.40-1.60	0.6-2	0.20-0.22	3.0-5.9	0.0-0.5	.43	.43			
	67-80	0-7	66-82	18-27	1.40-1.60	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	.49	.49			
272A:														
Edgington----------	0-20	2-7	66-83	15-27	1.20-1.40	0.6-2	0.22-0.26	0.0-2.9	4.5-6.0	.28	.28	5	6	48
	20-31	2-7	66-83	15-27	1.40-1.60	0.2-0.6	0.17-0.21	0.0-2.9	0.1-1.0	.43	.43			
	31-55	2-7	58-71	27-35	1.35-1.55	0.6-2	0.18-0.21	3.0-5.9	0.5-1.5	.37	.37			
	55-60	2-7	66-83	15-27	1.40-1.60	0.6-2	0.19-0.26	0.0-2.9	0.0-0.5	.49	.49			
279A:														
Rozetta----------	0-4	0-7	66-85	15-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	4-11	0-7	66-88	12-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	0.2-0.5	.49	.49			
	11-50	0-7	58-73	27-35	1.35-1.55	0.6-2	0.18-0.22	3.0-5.9	0.2-0.5	.37	.37			
	50-60	0-7	63-80	20-30	1.40-1.60	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.49	.49			
279B:														
Rozetta----------	0-7	0-7	66-85	15-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	7-11	0-7	66-88	12-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	0.1-1.0	.49	.49			
	11-55	0-7	58-73	27-35	1.35-1.55	0.6-2	0.18-0.22	3.0-5.9	0.0-0.5	.37	.37			
	55-60	0-7	63-80	20-30	1.40-1.60	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	.49	.49			
279B2:														
Rozetta----------	0-6	0-7	66-80	20-27	1.20-1.40	0.6-2	0.17-0.21	0.0-2.9	0.5-2.0	.43	.43	5	6	48
	6-53	0-7	58-73	27-35	1.35-1.55	0.6-2	0.16-0.20	3.0-5.9	0.3-0.8	.43	.43			
	53-65	0-7	66-85	15-27	1.40-1.60	0.2-0.6	0.19-0.26	0.0-2.9	0.1-0.5	.49	.49			
	65-80	30-50	28-50	18-27	1.65-1.85	0.2-0.6	0.08-0.12	0.0-2.9	0.1-0.3	.37	.37			
279C2:														
Rozetta----------	0-8	0-7	66-85	15-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.43	.43	5	6	48
	8-56	0-7	58-73	27-35	1.35-1.55	0.6-2	0.18-0.22	3.0-5.9	0.2-0.5	.37	.37			
	56-80	0-7	63-80	20-30	1.40-1.60	0.6-2	0.18-0.22	0.0-2.9	0.2-0.5	.49	.49			
279C3:														
Rozetta----------	0-6	0-7	58-72	27-35	1.30-1.45	0.6-2	0.18-0.22	3.0-5.9	0.2-1.0	.37	.37	4	6	48
	6-33	0-7	58-73	27-35	1.35-1.50	0.6-2	0.18-0.20	3.0-5.9	0.2-0.5	.37	.37			
	33-60	0-7	66-84	15-27	1.40-1.60	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.49	.49			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
279D2:														
Rozetta	0-6	0-7	66-85	15-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.43	.43	5	6	48
	6-49	0-7	58-73	27-35	1.35-1.55	0.6-2	0.18-0.22	3.0-5.9	0.2-0.5	.37	.37			
	49-60	0-7	66-80	20-27	1.40-1.60	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.49	.49			
280C2:														
Fayette	0-8	0-7	66-75	25-27	1.35-1.45	0.6-2	0.18-0.20	3.0-5.9	1.0-2.0	.43	.43	5	6	48
	8-64	0-7	58-75	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
	64-80	0-7	67-78	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.49	.49			
280D2:														
Fayette	0-6	0-7	66-75	25-27	1.35-1.45	0.6-2	0.18-0.20	3.0-5.9	1.0-2.0	.43	.43	5	6	48
	6-48	0-7	58-75	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
	48-60	0-7	67-78	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.49	.49			
374A:														
Proctor, sandy substratum	0-17	2-15	58-78	20-27	1.10-1.30	0.6-2	0.22-0.24	0.0-2.9	3.0-4.0	.28	.28	4	6	48
	17-30	2-15	50-70	27-35	1.35-1.55	0.6-2	0.15-0.20	3.0-5.9	0.5-2.0	.37	.37			
	30-50	35-65	15-45	19-30	1.45-1.65	2-6	0.11-0.18	0.0-2.9	0.2-1.0	.32	.32			
	50-60	80-95	1-13	2-10	1.60-1.80	6-60	0.05-0.10	0.0-2.9	0.0-0.2	.05	.05			
533:														
Urban land	---	---	---	---	---	---	---	---	---	---	---	--	8	0
567C2:														
Elkhart	0-8	0-7	66-80	20-27	1.15-1.35	0.6-2	0.22-0.24	0.0-2.9	2.0-3.0	.37	.37	5	6	48
	8-34	0-7	58-75	25-35	1.25-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.37	.37			
	34-60	0-7	66-80	18-27	1.35-1.55	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	.49	.49			
618F:														
Senachwine	0-11	15-40	50-72	10-20	1.40-1.60	0.6-2	0.16-0.22	0.0-2.9	1.0-2.5	.37	.37	5	5	56
	11-17	15-40	25-53	27-35	1.45-1.65	0.6-2	0.14-0.17	3.0-5.9	0.3-0.8	.32	.32			
	17-32	20-40	25-53	27-35	1.45-1.65	0.6-2	0.14-0.17	3.0-5.9	0.1-0.5	.24	.28			
	32-40	30-50	28-50	20-27	1.45-1.65	0.6-2	0.11-0.14	0.0-2.9	0.1-0.5	.32	.37			
	40-60	30-50	30-50	10-20	1.65-1.85	0.2-0.6	0.08-0.12	0.0-2.9	0.1-0.3	.37	.43			
622C2:														
Wyanet	0-8	15-30	50-65	20-27	1.40-1.60	0.6-2	0.14-0.22	0.0-2.9	1.5-3.5	.28	.28	5	6	48
	8-26	15-40	25-58	27-35	1.50-1.70	0.6-2	0.12-0.16	3.0-5.9	0.5-1.5	.32	.37			
	26-34	30-50	28-50	20-27	1.45-1.65	0.6-2	0.11-0.14	0.0-2.9	0.1-0.5	.32	.32			
	34-60	30-50	28-50	10-27	1.65-1.85	0.2-0.6	0.06-0.12	0.0-2.9	0.0-0.5	.37	.37			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors			Wind erodi-bility group	Wind erodi-bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
622D2:														
Wyanet----------	0-8	15-30	50-65	20-27	1.40-1.60	0.6-2	0.14-0.22	0.0-2.9	1.5-3.5	.28	.28	5	6	48
	8-26	20-40	25-53	27-35	1.50-1.70	0.6-2	0.12-0.16	3.0-5.9	0.5-1.5	.32	.37			
	26-34	30-50	28-50	20-27	1.45-1.65	0.6-2	0.11-0.14	0.0-2.9	0.1-0.5	.32	.32			
	34-60	30-50	28-50	10-27	1.65-1.85	0.2-0.6	0.06-0.12	0.0-2.9	0.0-0.5	.37	.37			
663A:														
Clare----------	0-11	3-15	58-82	15-27	1.30-1.50	0.6-2	0.19-0.23	0.0-2.9	2.5-4.0	.28	.28	5	6	48
	11-16	3-15	58-82	15-27	1.30-1.50	0.6-2	0.18-0.23	0.0-2.9	0.5-1.5	.37	.37			
	16-30	3-15	50-70	27-35	1.35-1.55	0.6-2	0.18-0.21	3.0-5.9	0.1-0.5	.32	.32			
	30-44	20-40	28-53	27-32	1.50-1.70	0.6-2	0.12-0.16	3.0-5.9	0.1-0.5	.24	.28			
	44-60	25-40	40-55	10-20	1.60-1.80	0.6-2	0.14-0.17	0.0-2.9	0.0-0.5	.32	.49			
683A:														
Lawndale----------	0-18	5-15	58-75	20-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	3.0-5.0	.28	.28	5	6	48
	18-44	0-10	55-75	25-35	1.25-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.37	.37			
	44-52	40-80	0-35	10-28	1.30-1.35	2-6	0.11-0.17	0.0-2.9	0.0-0.5	.32	.32			
	52-80	70-90	0-27	3-10	1.50-1.85	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.15	.15			
684A:														
Broadwell----------	0-15	5-15	58-75	20-27	1.25-1.45	0.6-2	0.23-0.26	0.0-2.9	3.0-4.0	.28	.28	5	6	48
	15-50	0-10	55-76	24-35	1.35-1.60	0.6-2	0.14-0.24	3.0-5.9	0.0-1.0	.37	.37			
	50-55	40-80	0-35	10-28	1.30-1.35	2-6	0.11-0.17	0.0-2.9	0.0-0.5	.32	.32			
	55-80	70-90	0-27	3-10	1.55-1.75	6-20	0.08-0.11	0.0-2.9	0.0-0.5	.15	.15			
684B:														
Broadwell----------	0-15	5-15	58-75	20-27	1.25-1.45	0.6-2	0.23-0.26	0.0-2.9	3.0-4.0	.28	.28	5	6	48
	15-50	0-10	55-76	24-35	1.35-1.60	0.6-2	0.14-0.24	3.0-5.9	0.0-1.0	.37	.37			
	50-55	40-80	0-35	10-28	1.30-1.35	2-6	0.11-0.17	0.0-2.9	0.0-0.5	.32	.32			
	55-80	70-90	0-27	3-10	1.55-1.75	6-20	0.08-0.11	0.0-2.9	0.0-0.5	.15	.15			
684C2:														
Broadwell----------	0-8	0-15	58-76	24-27	1.25-1.30	0.6-2	0.22-0.24	0.0-2.9	2.0-3.0	.37	.37	5	6	48
	8-46	0-10	55-80	20-35	1.30-1.35	0.6-2	0.19-0.22	3.0-5.9	0.0-1.0	.37	.37			
	46-49	40-80	0-35	10-28	1.30-1.35	2-6	0.11-0.17	0.0-2.9	0.0-0.5	.32	.32			
	49-60	70-90	0-27	3-10	1.30-1.35	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.15	.15			
685B:														
Middletown----------	0-9	0-10	63-80	20-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	9-12	0-10	63-85	15-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	0.1-1.0	.49	.49			
	12-44	0-10	55-75	25-35	1.25-1.45	0.6-2	0.18-0.21	3.0-5.9	0.0-0.5	.37	.37			
	44-47	40-80	0-35	10-28	1.30-1.35	2-6	0.11-0.17	0.0-2.9	0.0-0.5	.32	.32			
	47-79	70-90	0-27	3-10	1.45-1.65	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.15	.15			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
685C2:														
Middletown----------	0-7	0-10	63-80	20-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.43	.43	5	6	48
	7-46	0-10	55-75	25-35	1.25-1.45	0.6-2	0.18-0.21	3.0-5.9	0.0-0.5	.37	.37			
	46-55	40-80	0-35	10-28	1.30-1.35	2-6	0.11-0.17	0.0-2.9	0.0-0.5	.32	.32			
	55-60	70-90	0-27	3-10	1.45-1.65	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.15	.15			
685D2:														
Middletown----------	0-7	0-10	63-80	20-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.43	.43	5	6	48
	7-46	0-10	55-75	25-35	1.25-1.45	0.6-2	0.18-0.21	3.0-5.9	0.0-0.5	.37	.37			
	46-55	40-80	0-35	10-28	1.30-1.35	2-6	0.11-0.17	0.0-2.9	0.0-0.5	.32	.32			
	55-60	70-90	0-27	3-10	1.45-1.65	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.15	.15			
705A:														
Buckhart------------	0-20	0-7	63-80	20-30	1.25-1.30	0.6-2	0.22-0.24	3.0-5.9	3.0-4.0	.28	.28	5	6	48
	20-58	0-7	58-75	25-35	1.30-1.35	0.6-2	0.18-0.20	3.0-5.9	0.2-1.0	.37	.37			
	58-60	0-7	66-82	18-27	1.35-1.45	0.6-2	0.20-0.22	3.0-5.9	0.0-0.5	.49	.49			
705B:														
Buckhart------------	0-15	0-7	67-80	20-26	1.25-1.30	0.6-2	0.22-0.24	3.0-5.9	3.0-4.0	.28	.28	5	6	48
	15-67	0-7	58-75	25-35	1.30-1.35	0.6-2	0.18-0.20	3.0-5.9	0.2-1.0	.37	.37			
	67-80	0-7	66-82	18-27	1.35-1.45	0.6-2	0.20-0.22	3.0-5.9	0.0-0.5	.49	.49			
712A:														
Spaulding-----------	0-22	1-7	58-72	27-35	1.05-1.25	0.6-2	0.21-0.24	3.0-5.9	4.0-6.0	.24	.24	5	4L	86
	22-38	1-7	58-72	27-35	1.20-1.50	0.6-2	0.18-0.22	3.0-5.9	0.5-2.0	.37	.37			
	38-44	1-7	66-75	22-35	1.25-1.55	0.6-2	0.17-0.22	3.0-5.9	0.5-1.0	.37	.37			
	44-80	1-7	66-79	20-27	1.30-1.55	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	.49	.49			
726A:														
Elburn, sandy substratum---------	0-14	2-7	66-76	22-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	3.5-5.0	.28	.28	4	6	48
	14-39	2-7	58-73	25-35	1.35-1.55	0.6-2	0.18-0.21	3.0-5.9	0.5-1.5	.37	.37			
	39-50	15-37	45-67	18-27	1.45-1.65	0.6-2	0.13-0.17	0.0-2.9	0.1-0.5	.43	.43			
	50-80	80-95	1-13	2-10	1.60-1.80	6-20	0.05-0.10	0.0-2.9	0.0-0.2	.05	.05			
733C2:														
Birkbeck------------	0-7	2-7	66-78	20-27	1.40-1.60	0.6-2	0.17-0.21	0.0-2.9	0.5-2.5	.43	.43	5	6	48
	7-46	2-7	58-71	27-35	1.35-1.55	0.6-2	0.16-0.20	3.0-5.9	0.1-0.5	.37	.37			
	46-57	30-50	28-50	20-27	1.45-1.65	0.6-2	0.11-0.14	0.0-2.9	0.1-0.5	.32	.32			
	57-60	30-50	28-50	17-27	1.65-1.85	0.2-0.6	0.06-0.12	0.0-2.9	0.0-0.5	.37	.37			
Senachwine----------	0-5	15-20	53-65	20-27	1.35-1.55	0.6-2	0.18-0.20	0.0-2.9	1.0-2.5	.32	.32	5	6	48
	5-34	15-21	45-58	27-35	1.45-1.65	0.6-2	0.14-0.17	3.0-5.9	0.1-0.5	.32	.32			
	34-64	30-50	30-50	10-20	1.65-1.85	0.2-0.6	0.08-0.12	0.0-2.9	0.1-0.3	.37	.37			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors			Wind erodi-bility group	Wind erodi-bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
733C3:														
Birkbeck----------	0-7	2-7	58-71	27-35	1.30-1.45	0.6-2	0.18-0.22	3.0-5.9	0.2-1.0	.37	.37	4	6	48
	7-46	2-7	58-71	27-35	1.35-1.55	0.6-2	0.16-0.20	3.0-5.9	0.1-0.5	.37	.37			
	46-57	30-50	28-50	20-27	1.45-1.65	0.6-2	0.11-0.14	0.0-2.9	0.1-0.5	.32	.32			
	57-60	30-50	28-50	17-27	1.65-1.85	0.2-0.6	0.06-0.12	0.0-2.9	0.0-0.5	.37	.37			
Senachwine----------	0-4	20-40	25-53	27-35	1.45-1.65	0.6-2	0.18-0.20	3.0-5.9	0.5-1.0	.32	.32	4	6	48
	4-33	20-40	25-53	27-35	1.45-1.65	0.6-2	0.14-0.17	3.0-5.9	0.1-0.5	.32	.32			
	33-60	30-50	30-50	10-20	1.65-1.85	0.2-0.6	0.08-0.12	0.0-2.9	0.0-0.5	.37	.37			
736D2:														
Senachwine----------	0-7	15-20	53-65	20-27	1.35-1.55	0.6-2	0.18-0.20	0.0-2.9	1.0-2.5	.32	.32	5	6	48
	7-34	20-40	25-53	27-35	1.45-1.65	0.6-2	0.14-0.17	3.0-5.9	0.1-0.5	.32	.32			
	34-70	30-50	30-50	10-20	1.65-1.85	0.2-0.6	0.08-0.12	0.0-2.9	0.1-0.3	.37	.37			
Russell----------	0-7	3-15	58-77	20-27	1.40-1.60	0.6-2	0.15-0.21	0.0-2.9	1.0-2.5	.43	.43	5	6	48
	7-27	3-15	50-70	27-35	1.35-1.55	0.6-2	0.13-0.19	3.0-5.9	0.1-0.5	.37	.37			
	27-48	20-40	25-53	27-35	1.50-1.70	0.6-2	0.12-0.16	3.0-5.9	0.1-0.5	.32	.32			
	48-65	30-50	28-50	10-27	1.65-1.85	0.2-0.6	0.08-0.12	0.0-2.9	0.1-0.3	.37	.37			
737A:														
Tama, very deep to sand----------	0-16	0-10	63-75	20-27	1.25-1.45	0.6-2	0.23-0.26	0.0-2.9	3.0-4.0	.28	.28	5	6	48
	16-67	0-10	55-76	24-35	1.35-1.60	0.6-2	0.14-0.24	3.0-5.9	0.0-1.0	.37	.37			
	67-73	40-80	0-35	10-28	1.30-1.35	2-6	0.11-0.17	0.0-2.9	0.0-0.5	.32	.32			
	73-93	50-90	0-47	3-10	1.55-1.75	6-20	0.08-0.11	0.0-2.9	0.0-0.5	.15	.15			
737B:														
Tama, very deep to sand----------	0-16	0-10	63-75	20-27	1.25-1.45	0.6-2	0.16-0.20	0.0-2.9	3.0-4.0	.28	.28	5	6	48
	16-70	0-10	55-76	24-35	1.35-1.60	0.6-2	0.16-0.22	3.0-5.9	0.0-1.0	.37	.37			
	70-80	75-97	1-18	1-10	1.40-1.90	6-20	0.08-0.11	0.0-2.9	0.0-0.5	.15	.15			
737C2:														
Tama, very deep to sand----------	0-8	0-10	63-75	20-27	1.25-1.45	0.6-2	0.23-0.26	0.0-2.9	2.0-3.0	.37	.37	5	6	48
	8-66	0-10	55-76	24-35	1.35-1.60	0.6-2	0.14-0.24	3.0-5.9	0.0-1.0	.37	.37			
	66-73	40-80	0-35	10-28	1.30-1.35	2-6	0.11-0.17	0.0-2.9	0.0-0.5	.32	.32			
	73-93	50-90	0-47	3-10	1.55-1.75	6-20	0.08-0.11	0.0-2.9	0.0-0.5	.15	.15			
748A:														
Plano, sandy substratum---------	0-16	2-7	66-78	20-27	1.40-1.60	0.6-2	0.18-0.22	0.0-2.9	3.0-4.0	.28	.28	4	6	48
	16-48	2-7	58-71	27-35	1.35-1.55	0.6-2	0.18-0.21	3.0-5.9	0.5-1.5	.37	.37			
	48-51	15-55	35-67	18-27	1.45-1.65	0.6-2	0.13-0.17	0.0-2.9	0.1-0.5	.43	.43			
	51-80	80-95	1-13	2-10	1.60-1.80	6-20	0.05-0.10	0.0-2.9	0.0-0.2	.05	.05			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
748B:														
Plano, sandy substratum---	0-16	2-7	66-78	20-27	1.40-1.60	0.6-2	0.18-0.22	0.0-2.9	3.0-4.0	.28	.28	4	6	48
	16-40	2-7	58-71	27-35	1.35-1.55	0.6-2	0.18-0.21	3.0-5.9	0.5-1.5	.37	.37			
	40-51	15-55	35-67	18-27	1.45-1.65	0.6-2	0.13-0.17	0.0-2.9	0.1-0.5	.43	.43			
	51-80	80-95	1-13	2-10	1.60-1.80	6-20	0.05-0.10	0.0-2.9	0.0-0.2	.05	.05			
748C2:														
Plano, sandy substratum---	0-8	2-7	66-78	20-27	1.25-1.45	0.6-2	0.23-0.26	0.0-2.9	1.0-3.0	.37	.37	4	6	48
	8-40	2-7	58-71	25-35	1.35-1.60	0.6-2	0.14-0.24	3.0-5.9	0.5-1.0	.37	.37			
	40-48	15-44	38-67	18-27	1.45-1.65	0.6-2	0.13-0.17	0.0-2.9	0.1-0.5	.43	.43			
	48-80	80-95	1-13	2-10	1.60-1.80	6-20	0.05-0.10	0.0-2.9	0.0-0.2	.05	.05			
749B:														
Buckhart, till substratum---	0-13	0-7	67-80	20-26	1.25-1.30	0.6-2	0.22-0.24	0.0-2.9	3.0-4.0	.28	.28	5	6	48
	13-59	0-7	58-75	25-35	1.30-1.35	0.6-2	0.18-0.20	3.0-5.9	0.2-1.0	.37	.37			
	59-69	0-7	66-82	18-27	1.35-1.45	0.6-2	0.20-0.22	0.0-2.9	0.1-0.5	.49	.49			
	69-80	30-40	33-50	15-27	1.65-1.85	0.2-0.6	0.08-0.12	0.0-2.9	0.1-0.5	.37	.37			
802B:														
Orthents, loamy-----	0-6	30-45	25-48	22-30	1.70-1.75	0.2-0.6	0.18-0.22	3.0-5.9	0.5-2.0	.43	.43	5	6	48
	6-60	28-45	25-50	22-30	1.70-1.80	0.2-0.6	0.08-0.12	3.0-5.9	0.2-1.0	.43	.43			
802E:														
Orthents, loamy-----	0-6	30-45	25-48	22-30	1.70-1.75	0.2-0.6	0.18-0.22	3.0-5.9	0.2-2.0	.43	.43	5	6	48
	6-60	30-45	25-50	20-30	1.70-1.80	0.2-0.6	0.08-0.12	3.0-5.9	0.2-1.0	.43	.43			
827A:														
Broadwell-----------	0-15	5-15	58-75	20-27	1.25-1.45	0.6-2	0.23-0.26	0.0-2.9	3.0-4.0	.28	.28	5	6	48
	15-50	0-10	55-76	24-35	1.35-1.60	0.6-2	0.14-0.24	3.0-5.9	0.0-1.0	.37	.37			
	50-55	40-80	0-35	10-28	1.30-1.35	2-6	0.11-0.17	0.0-2.9	0.0-0.5	.32	.32			
	55-80	70-90	0-27	3-10	1.55-1.75	6-20	0.08-0.11	0.0-2.9	0.0-0.5	.15	.15			
Onarga--------------	0-13	50-75	10-42	8-15	1.30-1.65	0.6-6	0.14-0.18	0.0-2.9	1.0-3.0	.15	.15	4	3	86
	13-29	45-75	7-43	12-18	1.45-1.70	0.6-6	0.15-0.19	0.0-2.9	0.2-1.0	.24	.24			
	29-60	65-95	0-33	2-10	1.55-1.75	6-20	0.05-0.13	0.0-2.9	0.0-0.5	.15	.15			
827B:														
Broadwell-----------	0-15	5-15	58-75	20-27	1.25-1.45	0.6-2	0.23-0.26	0.0-2.9	3.0-4.0	.28	.28	5	6	48
	15-50	0-10	55-76	24-35	1.35-1.60	0.6-2	0.14-0.24	3.0-5.9	0.0-1.0	.37	.37			
	50-55	40-80	0-35	10-28	1.30-1.35	2-6	0.11-0.17	0.0-2.9	0.0-0.5	.32	.32			
	55-80	70-90	0-27	3-10	1.55-1.75	6-20	0.08-0.11	0.0-2.9	0.0-0.5	.15	.15			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
827B:														
Onarga	0-13	50-75	10-42	8-15	1.30-1.65	0.6-6	0.14-0.18	0.0-2.9	1.0-3.0	.15	.15	4	3	86
	13-29	45-75	7-43	12-18	1.45-1.70	0.6-6	0.15-0.19	0.0-2.9	0.2-1.0	.24	.24			
	29-60	65-95	0-33	2-10	1.55-1.75	6-20	0.05-0.13	0.0-2.9	0.0-0.5	.15	.15			
827B2:														
Broadwell	0-8	5-15	58-75	20-27	1.25-1.45	0.6-2	0.23-0.26	0.0-2.9	2.0-3.0	.37	.37	5	6	48
	8-50	0-10	55-76	24-35	1.35-1.60	0.6-2	0.14-0.24	3.0-5.9	0.0-1.0	.37	.37			
	50-55	40-80	0-35	10-28	1.30-1.35	2-6	0.11-0.17	0.0-2.9	0.0-0.5	.32	.32			
	55-80	70-90	0-27	3-10	1.55-1.75	6-20	0.08-0.11	0.0-2.9	0.0-0.5	.15	.15			
Onarga	0-8	50-75	10-42	8-15	1.30-1.65	0.6-6	0.14-0.18	0.0-2.9	1.0-2.0	.17	.17	4	3	86
	8-29	45-75	7-43	12-18	1.45-1.70	0.6-6	0.15-0.19	0.0-2.9	0.2-1.0	.24	.24			
	29-60	65-95	0-33	2-10	1.55-1.75	6-20	0.05-0.13	0.0-2.9	0.0-0.5	.15	.15			
828D2:														
Broadwell	0-8	5-15	58-75	20-27	1.25-1.45	0.6-2	0.23-0.26	0.0-2.9	2.0-3.0	.37	.37	5	6	48
	8-50	0-10	55-76	24-35	1.35-1.60	0.6-2	0.14-0.24	3.0-5.9	0.0-1.0	.37	.37			
	50-55	40-80	0-35	10-28	1.30-1.35	2-6	0.11-0.17	0.0-2.9	0.0-0.5	.32	.32			
	55-80	70-90	0-27	3-10	1.55-1.75	6-20	0.08-0.11	0.0-2.9	0.0-0.5	.15	.15			
Sparta	0-8	75-95	0-22	0-10	1.20-1.40	2-6	0.09-0.12	0.0-2.9	0.5-2.0	.02	.02	5	2	134
	8-34	72-95	0-27	1-8	1.40-1.60	6-20	0.05-0.11	0.0-2.9	0.1-1.0	.15	.15			
	34-60	85-100	0-15	0-5	1.50-1.70	6-20	0.04-0.07	0.0-2.9	0.0-0.5	.15	.15			
830:														
Landfills	---	---	---	---	---	---	---	---	---	---	---	2	6	48
861B2:														
Princeton	0-8	80-96	2-12	2-10	1.45-1.65	6-20	0.09-0.11	0.0-2.9	0.5-1.5	.10	.10	5	1	220
	8-31	40-75	5-35	18-25	1.45-1.60	0.6-2	0.16-0.19	0.0-2.9	0.0-1.0	.32	.32			
	31-80	70-87	5-22	8-18	1.40-1.65	2-6	0.10-0.17	0.0-2.9	0.0-0.5	.15	.15			
Bloomfield	0-6	80-96	2-12	2-10	1.45-1.65	6-20	0.09-0.11	0.0-2.9	0.5-1.5	.02	.02	5	1	220
	6-25	75-95	3-15	2-10	1.45-1.65	6-20	0.08-0.12	0.0-2.9	0.0-1.0	.15	.15			
	25-80	75-91	4-15	5-13	1.60-1.80	2-20	0.08-0.12	0.0-2.9	0.0-1.0	.15	.15			
861D2:														
Princeton	0-8	80-96	2-12	2-10	1.45-1.65	6-20	0.09-0.11	0.0-2.9	0.5-1.5	.10	.10	5	1	220
	8-31	40-75	5-35	18-25	1.45-1.60	0.6-2	0.16-0.19	0.0-2.9	0.0-1.0	.32	.32			
	31-80	70-87	5-22	8-18	1.40-1.65	2-6	0.10-0.17	0.0-2.9	0.0-0.5	.15	.15			
Bloomfield	0-6	80-96	2-12	2-10	1.45-1.65	6-20	0.09-0.11	0.0-2.9	0.5-1.5	.02	.02	5	1	220
	6-25	75-95	3-15	2-10	1.45-1.65	6-20	0.08-0.12	0.0-2.9	0.0-1.0	.15	.15			
	25-80	75-91	4-15	5-13	1.60-1.80	2-20	0.08-0.12	0.0-2.9	0.0-1.0	.15	.15			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
861F:														
Princeton	0-8	80-96	2-12	2-10	1.45-1.65	6-20	0.09-0.11	0.0-2.9	0.5-2.0	.10	.10	5	1	220
	8-31	40-75	5-35	18-25	1.45-1.60	0.6-2	0.16-0.19	0.0-2.9	0.0-1.0	.32	.32			
	31-80	70-87	5-22	8-18	1.40-1.65	2-6	0.10-0.17	0.0-2.9	0.0-0.5	.15	.15			
Bloomfield	0-8	80-96	2-12	2-10	1.45-1.65	6-20	0.09-0.11	0.0-2.9	0.5-2.0	.02	.02	5	1	220
	8-34	75-95	3-15	2-10	1.45-1.65	6-20	0.08-0.12	0.0-2.9	0.0-1.0	.15	.15			
	34-60	75-91	4-15	5-13	1.60-1.80	2-20	0.08-0.12	0.0-2.9	0.0-1.0	.15	.15			
864. Pits, quarries														
865. Pits, gravel														
871B:														
Lenzburg	0-5	15-50	23-65	20-27	1.30-1.60	0.6-2	0.17-0.20	3.0-5.9	0.5-2.0	.32	.32	5	4L	86
	5-37	15-50	15-65	20-35	1.30-1.60	0.2-0.6	0.15-0.18	3.0-5.9	0.2-1.0	.37	.43			
	37-80	15-50	15-65	20-35	1.40-1.70	0.2-0.6	0.11-0.17	3.0-5.9	0.2-1.0	.32	.43			
871D:														
Lenzburg	0-5	15-50	15-65	20-35	1.30-1.60	0.6-2	0.17-0.22	3.0-5.9	0.5-1.0	.32	.32	5	4L	86
	5-37	15-50	15-65	20-35	1.30-1.60	0.2-0.6	0.15-0.18	3.0-5.9	0.2-1.0	.37	.43			
	37-80	15-45	20-65	20-35	1.40-1.70	0.2-0.6	0.11-0.20	3.0-5.9	0.2-1.0	.32	.43			
898F2:														
Hickory	0-12	15-45	30-66	19-25	1.30-1.50	0.6-2	0.18-0.21	0.0-2.9	1.0-2.0	.32	.32	5	6	48
	12-48	15-45	20-58	27-35	1.45-1.65	0.6-2	0.11-0.14	3.0-5.9	0.0-0.5	.28	.32			
	48-60	20-50	18-65	15-32	1.50-1.70	0.6-2	0.08-0.10	0.0-2.9	0.0-0.2	.28	.32			
Sylvan	0-6	1-10	65-80	18-27	1.20-1.40	0.6-2	0.20-0.22	0.0-2.9	1.0-2.0	.43	.43	5	6	48
	6-28	1-10	58-74	25-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
	28-60	1-10	66-89	10-27	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	.49	.49			
965C2:														
Tallula	0-12	1-10	75-85	10-20	1.10-1.30	0.6-2	0.22-0.24	0.0-2.9	2.0-3.0	.32	.32	5	5	56
	12-21	1-10	75-85	12-18	1.10-1.30	0.6-2	0.20-0.22	0.0-2.9	0.5-1.0	.55	.55			
	21-31	1-10	75-85	12-18	1.10-1.30	0.6-2	0.20-0.22	0.0-2.9	0.5-1.0	.55	.55			
	31-60	1-10	75-85	8-18	1.10-1.50	0.6-2	0.20-0.22	0.0-2.9	0.0-0.2	.55	.55			
Bold	0-8	1-10	75-85	12-18	1.40-1.60	0.6-2	0.21-0.24	0.0-2.9	1.0-2.0	.43	.43	5	4L	86
	8-60	1-10	75-85	12-18	1.10-1.30	0.6-2	0.20-0.24	0.0-2.9	0.0-0.5	.55	.55			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
965D2:														
Tallula	0-10	1-10	75-85	10-20	1.10-1.30	0.6-2	0.22-0.24	0.0-2.9	2.0-3.0	.32	.32	5	5	56
	10-26	1-10	75-85	12-18	1.10-1.30	0.6-2	0.20-0.22	0.0-2.9	0.5-1.0	.55	.55			
	26-60	1-10	75-85	8-18	1.10-1.50	0.6-2	0.20-0.22	0.0-2.9	0.0-0.2	.55	.55			
Bold	0-8	1-10	75-85	12-18	1.40-1.60	0.6-2	0.21-0.24	0.0-2.9	1.0-2.0	.43	.43	5	4L	86
	8-60	1-10	75-85	12-18	1.10-1.30	0.6-2	0.20-0.24	0.0-2.9	0.0-0.5	.55	.55			
3073A:														
Ross	0-13	20-35	50-65	15-27	1.20-1.45	0.6-2	0.17-0.22	0.0-2.9	2.0-4.0	.32	.32	5	5	56
	13-43	20-45	28-62	18-27	1.20-1.50	0.6-2	0.14-0.18	0.0-2.9	1.0-3.0	.28	.28			
	43-60	40-70	10-55	5-20	1.35-1.60	0.6-6	0.05-0.18	0.0-2.9	0.5-1.0	.28	.28			
3074A:														
Radford	0-12	0-15	58-82	18-27	1.40-1.60	0.6-2	0.22-0.24	0.0-2.9	2.0-4.0	.32	.32	5	6	48
	12-33	0-15	58-82	18-27	1.40-1.60	0.6-2	0.20-0.22	0.0-2.9	0.0-2.0	.49	.49			
	33-80	5-30	35-71	24-35	1.35-1.55	0.6-2	0.18-0.20	0.0-2.9	3.0-6.0	.32	.32			
3077A:														
Huntsville	0-43	0-15	58-82	18-27	1.15-1.35	0.6-2	0.22-0.24	0.0-2.9	2.0-4.0	.32	.32	5	6	48
	43-60	5-30	43-77	18-27	1.20-1.40	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.49	.49			
3107+:														
Sawmill	0-11	0-15	58-82	18-27	1.25-1.40	0.6-2	0.22-0.24	0.0-2.9	4.0-5.0	.32	.32	5	6	48
	11-36	2-9	59-71	27-35	1.20-1.40	0.6-2	0.21-0.23	3.0-5.9	1.0-3.0	.28	.28			
	36-53	3-25	45-72	25-35	1.30-1.45	0.6-2	0.17-0.20	3.0-5.9	0.0-2.0	.32	.32			
	53-60	5-25	40-77	18-35	1.35-1.50	0.6-2	0.15-0.19	3.0-5.9	0.0-1.0	.32	.32			
3107A:														
Sawmill	0-10	3-15	58-70	27-35	1.25-1.45	0.6-2	0.12-0.18	3.0-5.9	4.5-7.0	.28	.28	5	6	48
	10-32	3-15	58-70	27-35	1.25-1.45	0.6-2	0.12-0.18	3.0-5.9	4.5-7.0	.28	.28			
	32-58	5-20	45-68	27-35	1.30-1.50	0.6-2	0.12-0.18	3.0-5.9	1.5-3.5	.32	.32			
	58-65	5-25	40-70	25-35	1.30-1.50	0.6-2	0.12-0.18	3.0-5.9	0.8-3.5	.32	.32			
3107S:														
Sawmill, sandy substratum	0-17	3-15	58-70	27-35	1.25-1.45	0.6-2	0.19-0.22	3.0-5.9	4.5-7.0	.28	.28	5	6	48
	17-24	3-15	58-70	27-35	1.25-1.45	0.6-2	0.19-0.22	3.0-5.9	4.5-7.0	.28	.28			
	24-57	5-20	45-68	27-35	1.30-1.50	0.6-2	0.17-0.20	3.0-5.9	1.5-3.5	.32	.32			
	57-80	70-90	0-27	3-10	1.45-1.65	2-20	0.05-0.10	0.0-2.9	0.0-0.5	.02	.02			
3284A:														
Tice	0-14	0-15	50-73	27-35	1.25-1.45	0.6-2	0.21-0.24	3.0-5.9	2.0-4.0	.28	.28	5	6	48
	14-52	5-20	45-71	24-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.32	.32			
	52-72	5-40	30-80	15-30	1.40-1.60	0.6-2	0.11-0.18	3.0-5.9	0.0-1.0	.32	.32			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
3284S:														
Tice, sandy substratum---	0-21	0-15	50-73	27-35	1.25-1.45	0.6-2	0.21-0.24	3.0-5.9	2.0-4.0	.28	.28	5	6	48
	21-57	5-20	45-71	24-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.32	.32			
	57-80	70-90	0-27	3-10	1.45-1.65	2-20	0.05-0.10	0.0-2.9	0.0-0.5	.02	.02			
3304A:														
Landes---	0-14	50-80	0-43	7-20	1.40-1.60	2-6	0.11-0.15	0.0-2.9	1.0-2.5	.20	.20	4	3	86
	14-32	50-82	0-45	5-18	1.60-1.70	2-6	0.10-0.15	0.0-2.9	0.5-2.0	.32	.32			
	32-60	50-90	0-45	5-18	1.60-1.80	6-20	0.03-0.07	0.0-2.9	0.5-2.0	.02	.02			
3405A:														
Zook---	0-8	0-15	45-65	35-40	1.30-1.35	0.2-0.6	0.21-0.23	6.0-8.9	4.0-5.0	.28	.28	5	4	86
	8-55	0-15	40-64	36-45	1.30-1.45	0.06-0.2	0.15-0.18	6.0-8.9	2.0-4.0	.28	.28			
	55-60	0-15	40-80	20-45	1.30-1.45	0.06-0.6	0.13-0.20	3.0-5.9	0.5-1.0	.32	.32			
3408A:														
Aquents, loamy---	0-9	35-52	28-50	10-27	1.30-1.50	0.6-2	0.19-0.22	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	9-18	75-90	1-20	4-10	1.55-1.65	6-20	0.08-0.10	0.0-2.9	0.0-0.5	.43	.43			
	18-41	0-10	63-78	22-27	1.20-1.40	0.6-2	0.15-0.17	0.0-2.9	0.5-5.0	.43	.43			
	41-60	5-25	40-70	25-35	1.30-1.45	0.6-2	0.07-0.10	3.0-5.9	0.0-2.0	.43	.43			
3451A:														
Lawson---	0-14	0-15	58-90	10-27	1.20-1.55	0.6-2	0.22-0.24	0.0-2.9	2.0-4.0	.32	.32	5	5	56
	14-33	0-15	55-90	10-30	1.20-1.55	0.6-2	0.18-0.22	0.0-2.9	2.0-4.0	.32	.32			
	33-80	5-40	30-77	18-30	1.55-1.65	0.6-2	0.18-0.20	0.0-2.9	0.0-1.0	.49	.49			
7148A:														
Proctor---	0-16	0-10	66-82	18-27	1.10-1.30	0.6-2	0.22-0.24	0.0-2.9	3.0-4.0	.28	.28	5	6	48
	16-34	0-10	58-73	27-35	1.20-1.45	0.6-2	0.18-0.20	3.0-5.9	0.2-1.0	.37	.37			
	34-53	15-54	28-67	18-30	1.30-1.55	0.6-2	0.13-0.16	0.0-2.9	0.1-0.5	.32	.32			
	53-60	65-80	15-30	5-15	1.40-1.70	2-6	0.08-0.10	0.0-2.9	0.0-0.5	.24	.24			
7191A:														
Knight---	0-14	2-10	63-78	20-27	1.10-1.30	0.6-2	0.22-0.24	0.0-2.9	3.0-4.0	.28	.28	5	6	48
	14-25	3-10	65-79	18-25	1.20-1.40	0.2-0.6	0.20-0.22	0.0-2.9	0.0-1.0	.43	.43			
	25-68	3-10	55-70	25-35	1.30-1.50	0.2-0.6	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
	68-80	19-75	20-51	5-30	1.40-1.70	0.6-2	0.08-0.16	0.0-2.9	0.0-0.4	.32	.32			
7198A:														
Elburn---	0-16	2-7	66-76	22-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	3.5-5.0	.28	.28	5	6	48
	16-49	2-7	58-73	25-35	1.35-1.55	0.6-2	0.18-0.21	3.0-5.9	0.5-1.5	.37	.37			
	49-58	30-55	30-55	15-20	1.45-1.65	0.6-2	0.14-0.17	0.0-2.9	0.1-0.5	.37	.37			
	58-62	60-80	10-25	5-15	1.50-1.70	2-6	0.06-0.10	0.0-2.9	0.1-0.5	.24	.24			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
7199A:														
Plano	0-14	0-10	63-82	18-27	1.10-1.30	0.6-2	0.22-0.24	0.0-2.9	3.0-4.0	.28	.28	5	6	48
	14-49	0-10	55-80	20-35	1.20-1.40	0.6-2	0.18-0.20	3.0-5.9	0.2-1.0	.37	.37			
	49-60	15-70	0-70	15-32	1.30-1.55	0.6-6	0.09-0.16	0.0-2.9	0.1-0.5	.32	.32			
	60-72	15-80	0-80	5-20	1.50-1.70	2-6	0.11-0.22	0.0-2.9	0.1-0.5	.28	.28			
7304A:														
Landes	0-19	45-75	5-48	7-20	1.40-1.60	2-6	0.11-0.15	0.0-2.9	1.0-2.0	.20	.20	4	3	86
	19-32	50-90	1-45	5-18	1.60-1.70	2-6	0.10-0.15	0.0-2.9	0.5-1.0	.24	.24			
	32-60	45-94	1-50	5-18	1.60-1.80	6-20	0.03-0.07	0.0-2.9	0.0-0.5	.02	.02			
8074A:														
Radford	0-21	3-15	58-79	18-27	1.30-1.50	0.6-2	0.19-0.23	0.0-2.9	3.5-5.0	.32	.32	5	6	48
	21-29	3-15	58-79	18-27	1.30-1.50	0.6-2	0.19-0.23	0.0-2.9	1.5-3.5	.49	.49			
	29-60	3-15	58-70	27-35	1.25-1.45	0.6-2	0.19-0.22	3.0-5.9	3.0-6.0	.28	.28			
8107+:														
Sawmill	0-14	0-15	58-82	18-27	1.25-1.40	0.6-2	0.22-0.24	0.0-2.9	4.0-5.0	.32	.32	5	6	48
	14-47	2-9	59-71	27-35	1.20-1.40	0.6-2	0.21-0.23	3.0-5.9	4.5-7.0	.28	.28			
	47-60	3-25	45-72	25-35	1.30-1.45	0.6-2	0.17-0.20	3.0-5.9	0.0-2.0	.32	.32			
8107A:														
Sawmill	0-26	2-15	58-70	27-35	1.25-1.45	0.6-2	0.19-0.22	3.0-5.9	4.0-7.0	.28	.28	5	6	48
	26-53	5-20	45-68	27-35	1.30-1.50	0.6-2	0.17-0.20	3.0-5.9	2.0-7.0	.32	.32			
	53-60	5-21	44-68	27-35	1.30-1.50	0.6-2	0.17-0.20	3.0-5.9	1.0-3.0	.28	.28			
8284A:														
Tice	0-14	1-15	50-72	27-35	1.25-1.45	0.6-2	0.21-0.24	3.0-5.9	2.0-4.0	.28	.28	5	6	48
	14-80	1-15	50-75	24-35	1.30-1.50	0.6-2	0.18-0.21	3.0-5.9	0.0-1.0	.32	.32			
8451A:														
Lawson	0-28	3-15	58-79	18-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	3.5-5.0	.32	.32	5	6	48
	28-60	3-15	58-79	18-27	1.30-1.50	0.6-2	0.18-0.23	0.0-2.9	0.5-1.5	.32	.32			
8452A:														
Riley	0-8	30-52	28-50	18-27	1.20-1.40	0.6-2	0.18-0.24	3.0-5.9	3.0-4.0	.32	.32	4	6	48
	8-24	15-60	15-60	24-35	1.45-1.65	0.6-2	0.16-0.20	3.0-5.9	0.5-2.0	.28	.28			
	24-31	35-60	20-47	18-35	1.45-1.65	0.6-2	0.16-0.20	3.0-5.9	0.2-1.0	.32	.32			
	31-60	72-90	2-18	2-10	1.65-1.80	6-20	0.05-0.10	0.0-2.9	0.0-0.2	.02	.02			

Table 21.--Chemical Properties of the Soils

(Absence of an entry indicates that data were not estimated)

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate
	In	meq/100 g	meq/100 g	pH	Pct
16A:					
Rushville	0-7	4.0-17	---	4.5-7.3	0
	7-13	3.0-13	---	4.5-7.3	0
	13-32	20-33	---	4.5-6.5	0
	32-50	18-30	---	4.5-7.8	0
	50-80	10-20	---	5.6-8.4	0-15
17A:					
Keomah	0-11	10-26	---	5.6-7.3	0
	11-18	9.0-24	---	5.1-7.3	0
	18-33	28-41	---	5.1-6.5	0
	33-51	16-29	---	5.1-6.5	0
	51-89	8.0-18	---	6.1-7.3	0
27D2:					
Miami	0-4	14-27	---	6.1-7.3	0
	4-12	12-24	---	5.6-7.3	0
	12-28	12-24	---	5.6-7.3	0
	28-33	12-24	---	6.6-7.8	0-10
	33-60	4.0-13	---	7.4-8.4	15-40
36A:					
Tama	0-19	25-30	---	5.1-7.3	0
	19-58	25-30	---	5.1-6.5	0
	58-80	25-30	---	5.6-7.3	0
36B:					
Tama	0-19	25-30	---	5.1-7.3	0
	19-58	25-30	---	5.1-6.5	0
	58-80	25-30	---	5.6-7.3	0
36C2:					
Tama	0-8	25-30	---	5.1-7.3	0
	8-30	25-30	---	5.1-6.5	0
	30-60	25-30	---	5.6-7.3	0
36D2:					
Tama	0-8	25-30	---	5.1-7.3	0
	8-30	25-30	---	5.1-6.5	0
	30-60	25-30	---	5.6-7.3	0
43A:					
Ipava	0-10	16-32	---	5.6-7.3	0
	10-18	25-38	---	5.6-7.3	0
	18-31	22-39	---	5.6-7.3	0
	31-50	17-31	---	6.6-7.8	0-5
	50-60	9.0-22	---	7.4-8.4	0-15
45A:					
Denny	0-8	18-24	---	5.6-7.3	0
	8-21	9.0-15	---	5.6-6.5	0
	21-46	21-29	---	5.6-6.5	0
	46-80	4.5-18	---	6.1-7.8	0
67A:					
Harpster	0-18	27-40	---	7.9-8.4	15-40
	18-41	18-27	---	7.4-8.4	5-40
	41-56	9.0-23	---	7.9-8.4	5-40
	56-60	4.0-16	---	7.9-8.4	10-40

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate
	In	meq/100 g	meq/100 g	pH	Pct
68A:					
Sable	0-23	27-40	---	5.6-6.5	0
	23-38	17-31	---	6.1-7.3	0
	38-47	10-25	---	6.6-7.8	0-5
	47-60	9.0-23	---	7.4-8.4	0-15
86B:					
Osco	0-14	18-25	---	5.1-7.3	0
	14-55	15-23	---	5.1-6.5	0
	55-60	12-18	---	5.6-7.8	0-15
86C2:					
Osco	0-9	18-25	---	5.1-7.3	0
	9-34	15-23	---	5.1-6.5	0
	34-60	12-18	---	5.1-7.8	0-15
134C2:					
Camden	0-7	12-22	---	5.1-7.3	0
	7-34	19-27	---	5.1-7.3	0
	34-43	15-23	---	5.1-7.3	0
	43-80	4.1-12	---	6.1-7.8	0-25
134C3:					
Camden	0-7	7.0-17	---	5.1-7.3	0
	7-34	15-29	---	5.1-7.3	0
	34-43	9.0-20	---	5.1-7.3	0
	43-80	2.0-10	---	6.1-7.8	0-25
138A:					
Shiloh	0-27	29-34	---	6.1-7.3	0
	27-52	22-31	---	6.1-7.8	0
	52-80	10-23	---	6.1-7.8	0-10
148B:					
Proctor	0-11	17-24	---	5.1-7.8	0
	11-28	16-25	---	5.6-7.3	0
	28-33	11-21	---	5.6-7.3	0
	33-60	3.0-13	---	5.6-7.8	0-10
148C2:					
Proctor	0-8	14-28	---	5.1-7.8	0
	8-28	18-27	---	5.6-7.3	0
	28-33	8.0-19	---	5.6-7.3	0
	33-60	3.0-13	---	5.6-7.8	0-15
148D2:					
Proctor	0-8	14-28	---	5.1-7.8	0
	8-28	18-27	---	5.6-7.3	0
	28-33	8.0-19	---	5.6-7.3	0
	33-60	3.0-13	---	5.6-7.8	0-15
149A:					
Brenton	0-14	13-23	---	5.6-6.5	0
	14-33	21-28	---	5.6-6.5	0
	33-45	12-21	---	6.1-7.3	0
	45-54	15-21	---	6.6-7.8	0-5
	54-80	4.3-16	---	6.6-7.8	0-15

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate
	In	meq/100 g	meq/100 g	pH	Pct
152A:					
Drummer	0-14	23-30	---	5.6-7.3	0
	14-41	22-28	---	6.1-7.3	0
	41-47	16-21	---	6.6-7.8	0-5
	47-60	8.1-16	---	7.4-8.4	0-15
159B:					
Pillot	0-15	18-27	---	5.6-6.5	0
	15-32	15-23	---	5.6-7.3	0
	32-36	7.6-22	---	5.6-7.3	0
	36-60	2.0-7.0	---	5.6-7.3	0
159C2:					
Pillot	0-8	18-27	---	5.6-6.5	0
	8-32	15-23	---	5.6-7.3	0
	32-36	7.6-22	---	5.6-7.3	0
	36-60	2.0-7.0	---	5.6-7.3	0
171B:					
Catlin	0-11	14-30	---	6.1-7.3	0
	11-16	22-29	---	5.6-7.3	0
	16-41	21-28	---	5.6-7.3	0
	41-45	11-22	---	7.4-8.4	0-5
	45-60	4.0-16	---	7.4-8.4	15-40
171C2:					
Catlin	0-9	14-28	---	6.1-7.3	0
	9-40	17-31	---	5.6-6.5	0
	40-50	16-27	---	6.1-7.3	0
	50-55	11-22	---	6.6-7.8	0-5
	55-60	10-22	---	7.4-8.4	15-40
171D2:					
Catlin	0-9	14-28	---	6.1-7.3	0
	9-40	21-28	---	5.6-6.5	0
	40-50	16-27	---	6.1-7.3	0
	50-55	11-22	---	6.6-7.8	0-5
	55-60	10-22	---	7.4-8.4	15-40
191A:					
Knight	0-10	17-23	---	5.1-7.3	0
	10-22	13-20	---	5.1-7.3	0
	22-70	15-27	---	5.1-7.3	0
	70-80	4.1-23	---	6.1-7.8	0
198A:					
Elburn	0-16	16-32	---	6.1-7.3	0
	16-49	17-31	---	5.6-7.8	0
	49-58	6.0-13	---	6.6-7.8	0-5
	58-62	2.0-10	---	6.6-7.8	0-15
199A:					
Plano	0-14	17-26	---	6.1-7.3	0
	14-49	15-30	---	5.1-7.3	0
	49-60	9.0-20	---	5.6-7.8	0
	60-72	6.0-13	---	5.6-8.4	0-20
199B:					
Plano	0-15	17-26	---	6.1-7.3	0
	15-45	13-26	---	5.1-7.3	0
	45-55	6.0-19	---	5.6-7.8	0
	55-72	6.0-13	---	5.6-8.4	0-20

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate
	In	meq/100 g	meq/100 g	pH	Pct
199C2:					
Plano	0-8	17-26	---	6.1-7.3	0
	8-41	15-23	---	5.1-7.3	0
	41-53	9.0-20	---	5.6-7.8	0
	53-60	6.0-13	---	5.6-8.4	0-20
206A:					
Thorp	0-14	20-28	---	5.1-7.8	0
	14-19	11-17	---	5.1-7.3	0
	19-43	13-22	---	5.1-7.3	0
	43-50	12-19	---	5.6-7.8	0-5
	50-65	3.0-13	---	6.1-8.4	0-20
212C2:					
Thebes	0-9	13-21	---	6.1-7.3	0
	9-31	17-27	---	5.0-6.5	0
	31-39	10-20	---	5.0-6.5	0
	39-80	1.0-7.0	---	5.1-6.5	0
233B:					
Birkbeck	0-4	13-24	---	5.6-7.3	0
	4-9	9.0-24	7.9-14	4.5-6.5	0
	9-54	20.6-26.7	13.5-17.5	4.5-7.3	0
	54-60	7.0-17	---	6.1-7.8	0-5
	60-68	4.0-16	---	7.4-8.4	15-40
233C2:					
Birkbeck	0-7	13-24	---	5.6-7.3	0
	7-46	19.9-26.7	13-17.5	4.5-7.3	0
	46-57	9.0-19	---	6.1-7.8	0-5
	57-60	4.0-16	---	7.4-8.4	15-40
243A:					
St. Charles	0-8	14-22	---	5.1-7.8	0
	8-50	15-22	---	4.5-7.3	0
	50-60	9.0-19	---	5.1-7.3	0
243B:					
St. Charles	0-8	14-22	---	5.1-7.8	0
	8-50	15-22	---	4.5-7.3	0
	50-60	9.0-19	---	5.1-7.3	0
243C2:					
St. Charles	0-8	14-22	---	5.1-7.8	0
	8-41	15-22	---	4.5-7.3	0
	41-60	9.0-19	---	5.1-7.3	0
244A:					
Hartsburg	0-17	27-40	---	6.1-7.8	0-5
	17-34	17-31	---	6.6-8.4	0-25
	34-60	9.0-23	---	7.4-8.4	15-40
257A:					
Clarksdale	0-8	10-22	---	5.6-7.3	0
	8-16	9.0-18	---	5.1-7.3	0
	16-47	21-28	---	5.1-7.3	0
	47-67	12-19	---	6.1-8.4	0-15
	67-80	12-18	---	6.1-8.4	0-15

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate
	In	meq/100 g	meq/100 g	pH	Pct
272A:					
Edgington	0-20	18-34	---	5.1-6.5	0
	20-31	11.7-21.7	7.6-14	5.1-6.0	0
	31-55	17-31	---	5.1-6.0	0
	55-60	9.0-22	---	6.1-7.8	0-15
279A:					
Rozetta	0-4	10-22	---	5.1-7.3	0
	4-11	7.0-17	---	4.5-7.3	0
	11-50	16-22	---	4.5-6.0	0
	50-60	12-17	---	5.6-7.8	0-15
279B:					
Rozetta	0-7	10-22	---	5.1-7.3	0
	7-11	7.0-17	---	4.5-7.3	0
	11-55	16-22	---	4.5-6.0	0
	55-60	12-17	---	5.6-7.8	0-15
279B2:					
Rozetta	0-6	13-24	---	5.6-6.5	0
	6-53	16-29	---	5.6-7.3	0
	53-65	8.0-18	---	6.6-7.8	0-15
	65-80	4.0-16	---	7.4-8.4	15-40
279C2:					
Rozetta	0-8	10-22	---	5.1-7.3	0
	8-56	16-22	---	4.5-6.0	0
	56-80	12-17	---	5.6-7.8	0-15
279C3:					
Rozetta	0-6	7.0-17	---	5.1-7.3	0
	6-33	16-22	---	4.5-6.0	0
	33-60	12-17	---	5.6-7.8	0-15
279D2:					
Rozetta	0-6	10-22	---	5.1-7.3	0
	6-49	16-22	---	4.5-6.0	0
	49-60	12-17	---	5.6-7.8	0-15
280C2:					
Fayette	0-8	18-25	---	5.1-7.3	0
	8-64	15-22	---	4.5-6.0	0
	64-80	15-20	---	5.1-7.8	0-15
280D2:					
Fayette	0-6	18-25	---	5.1-7.3	0
	6-48	15-22	---	4.5-6.0	0
	48-60	15-20	---	5.1-7.8	0-15
374A:					
Proctor, sandy substratum	0-17	17-23	---	5.1-7.3	0
	17-30	21-28	---	5.1-7.3	0
	30-50	15-24	---	5.6-7.3	0
	50-60	1.8-8.3	---	5.6-7.8	0-15
533.					
Urban land					

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate
	In	meq/100 g	meq/100 g	pH	Pct
567C2:					
Elkhart	0-8	16-24	---	5.6-7.8	0
	8-34	15-22	---	5.6-8.4	0-20
	34-60	12-21	---	7.4-8.4	10-40
618F:					
Senachwine	0-11	8.0-19	---	5.6-7.3	0
	11-17	12-24	---	5.1-7.3	0
	17-32	14-18	---	5.1-7.3	0
	32-40	9.0-19	---	6.6-7.8	0-5
	40-60	4.0-13	---	7.4-8.4	15-40
622C2:					
Wyanet	0-8	10-22	---	5.6-7.3	0
	8-26	12-24	---	5.6-7.3	0
	26-34	9.0-19	---	7.4-8.4	0-5
	34-60	4.0-16	---	7.9-8.4	15-40
622D2:					
Wyanet	0-8	10-22	---	5.6-7.3	0
	8-26	12-24	---	5.6-7.3	0
	26-34	9.0-19	---	7.4-8.4	0-5
	34-60	4.0-16	---	7.9-8.4	15-40
663A:					
Clare	0-11	14-30	---	6.1-7.3	0
	11-16	10-25	---	5.6-6.5	0
	16-30	18-27	---	5.6-6.5	0
	30-44	11-22	---	6.1-7.3	0-5
	44-60	4.0-13	---	7.4-8.4	0-15
683A:					
Lawndale	0-18	18-27	---	5.6-7.3	0
	18-44	15-23	---	5.6-7.3	0
	44-52	15-20	---	5.6-7.3	0
	52-80	2.6-8.6	---	5.6-8.4	0-15
684A:					
Broadwell	0-15	18-27	---	5.6-7.3	0
	15-50	15-23	---	5.6-7.3	0
	50-55	15-20	---	5.6-7.3	0
	55-80	2.0-7.0	---	5.6-7.3	0
684B:					
Broadwell	0-15	18-27	---	5.6-7.3	0
	15-50	15-23	---	5.6-7.3	0
	50-55	15-20	---	5.6-7.3	0
	55-80	2.0-7.0	---	5.6-7.3	0
684C2:					
Broadwell	0-8	25-30	---	5.6-7.3	0
	8-46	25-30	---	5.6-7.3	0
	46-49	15-20	---	5.6-7.3	0
	49-60	5.0-10	---	5.6-7.3	0
685B:					
Middletown	0-9	14-22	---	6.1-7.3	0
	9-12	9.0-19	---	5.1-7.3	0
	12-44	17-27	---	5.0-6.5	0
	44-47	7.6-22	---	5.0-7.3	0
	47-79	1.0-7.0	---	5.1-7.3	0

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate
	In	meq/100 g	meq/100 g	pH	Pct
685C2:					
Middletown	0-7	14-21	---	6.1-7.3	0
	7-46	17-27	---	5.0-6.5	0
	46-55	7.6-22	---	5.0-7.3	0
	55-60	1.0-7.0	---	5.1-7.3	0
685D2:					
Middletown	0-7	14-21	---	6.1-7.3	0
	7-46	17-27	---	5.0-6.5	0
	46-55	7.6-22	---	5.0-7.3	0
	55-60	1.0-7.0	---	5.1-7.3	0
705A:					
Buckhart	0-20	18-25	---	5.6-7.3	0
	20-58	15-23	---	5.1-7.8	0
	58-60	12-18	---	5.6-7.8	0-15
705B:					
Buckhart	0-15	18-25	---	5.6-7.3	0
	15-67	15-23	---	5.6-7.8	0
	67-80	12-18	---	6.6-7.8	0-15
712A:					
Spaulding	0-22	24-33	---	7.4-8.4	10-40
	22-38	17-25	---	7.4-8.4	5-40
	38-44	14-23	---	7.4-8.4	5-40
	44-80	12-17	---	7.4-8.4	10-40
726A:					
Elburn, sandy substratum	0-14	16-32	---	5.6-7.3	0
	14-39	17-31	---	5.6-7.3	0
	39-50	7.0-20	---	6.1-7.3	0
	50-80	1.5-6.2	---	6.6-7.8	0-15
733C2:					
Birkbeck	0-7	13-24	---	5.6-7.3	0
	7-46	16-29	---	5.1-7.3	0
	46-57	9.0-19	---	6.1-7.8	0-5
	57-60	4.0-16	---	7.4-8.4	15-40
Senachwine	0-5	14-27	---	5.6-7.3	0
	5-34	12-24	---	5.6-7.3	0
	34-64	4.0-13	---	7.4-8.4	15-40
733C3:					
Birkbeck	0-7	7.0-17	---	5.6-7.3	0
	7-46	16-29	---	5.1-7.3	0
	46-57	9.0-19	---	6.1-7.8	0-5
	57-60	4.0-16	---	7.4-8.4	15-40
Senachwine	0-4	15-20	---	5.6-7.3	0
	4-33	11-22	---	5.1-7.3	0
	33-60	4.0-13	---	7.4-8.4	15-40
736D2:					
Senachwine	0-7	14-27	---	5.6-7.3	0
	7-34	14-18	---	5.1-7.3	0
	34-70	4.0-13	---	7.4-8.4	15-40

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate
	In	meq/100 g	meq/100 g	pH	Pct
736D2:					
Russell	0-7	13-24	---	5.6-6.5	0
	7-27	20-27	---	5.1-7.3	0
	27-48	11-22	---	5.6-7.3	0-5
	48-65	4.0-16	---	7.4-8.4	15-40
737A:					
Tama, very deep to sand	0-16	18-27	---	5.6-7.3	0
	16-67	15-23	---	5.6-7.3	0
	67-73	15-20	---	5.6-7.3	0
	73-93	2.0-7.0	---	5.6-7.3	0
737B:					
Tama, very deep to sand	0-16	18-27	---	5.6-7.3	0
	16-70	15-23	---	5.6-7.3	0
	70-80	2.6-8.6	---	5.6-7.3	0
737C2:					
Tama, very deep to sand	0-8	17-23	---	5.6-7.3	0
	8-66	15-23	---	5.6-7.3	0
	66-73	15-20	---	5.6-7.3	0
	73-93	2.6-8.6	---	5.6-7.3	0
748A:					
Plano, sandy substratum	0-16	17-23	---	5.6-7.3	0
	16-48	17-31	---	5.6-7.3	0
	48-51	7.0-20	---	5.6-7.3	0
	51-80	1.5-6.2	---	5.6-7.8	0-15
748B:					
Plano, sandy substratum	0-16	17-23	---	5.6-7.3	0
	16-40	17-31	---	5.6-7.3	0
	40-51	7.0-20	---	5.6-7.3	0
	51-80	1.5-6.2	---	5.6-7.8	0-15
748C2:					
Plano, sandy substratum	0-8	17-23	---	5.6-7.3	0
	8-40	20-27	---	5.6-7.3	0
	40-48	7.0-20	---	5.6-7.3	0
	48-80	1.5-6.2	---	5.6-7.8	0-15
749B:					
Buckhart, till substratum	0-13	18-25	---	5.6-7.3	0
	13-59	15-23	---	5.6-7.8	0
	59-69	14-21	---	6.6-7.8	0-15
	69-80	4.0-16	---	7.4-8.4	15-40
802B:					
Orthents, loamy	0-6	12-16	---	5.6-7.8	0-10
	6-60	12-16	---	5.6-7.8	0-20
802E:					
Orthents, loamy	0-6	14-20	---	5.6-7.8	0
	6-60	14-20	---	5.6-7.8	0

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate
	In	meq/100 g	meq/100 g	pH	Pct
827A:					
Broadwell	0-15	18-27	---	5.6-7.3	0
	15-50	15-23	---	5.6-7.3	0
	50-55	15-20	---	5.6-7.3	0
	55-80	2.0-7.0	---	5.6-7.3	0
Onarga	0-13	7.0-15	---	5.1-7.3	0
	13-29	9.8-15	---	5.0-7.3	0
	29-60	1.0-7.0	---	5.6-7.3	0
827B:					
Broadwell	0-15	18-27	---	5.6-7.3	0
	15-50	15-23	---	5.6-7.3	0
	50-55	15-20	---	5.6-7.3	0
	55-80	2.0-7.0	---	5.6-7.3	0
Onarga	0-13	7.0-15	---	5.1-7.3	0
	13-29	9.8-15	---	5.0-7.3	0
	29-60	1.0-7.0	---	5.6-7.3	0
827B2:					
Broadwell	0-8	17-23	---	5.6-7.3	0
	8-50	15-23	---	5.6-7.3	0
	50-55	15-20	---	5.6-7.3	0
	55-80	2.0-7.0	---	5.6-7.3	0
Onarga	0-8	7.3-13	---	5.1-7.3	0
	8-29	9.8-15	---	5.0-7.3	0
	29-60	1.0-7.0	---	5.6-7.3	0
828D2:					
Broadwell	0-8	18-27	---	5.6-7.3	0
	8-50	15-23	---	5.6-7.3	0
	50-55	15-20	---	5.6-7.3	0
	55-80	2.0-7.0	---	5.6-7.3	0
Sparta	0-8	2.0-12	---	5.1-7.3	0
	8-34	1.0-6.0	---	5.1-7.3	0
	34-60	1.0-4.0	---	5.1-7.8	0
830. Landfills					
861B2:					
Princeton	0-8	1.1-5.4	---	5.1-7.3	0
	8-31	7.0-15	---	5.0-7.3	0
	31-80	2.0-5.0	---	5.0-7.3	0
Bloomfield	0-6	1.8-7.8	---	5.1-7.3	0
	6-25	1.0-7.0	---	5.1-7.3	0
	25-80	3.0-8.0	---	5.1-7.8	0
861D2:					
Princeton	0-8	1.1-5.4	---	5.1-7.3	0
	8-31	7.0-15	---	5.0-7.3	0
	31-80	2.0-5.0	---	5.0-7.3	0
Bloomfield	0-6	1.8-7.8	---	5.1-7.3	0
	6-25	1.0-7.0	---	5.1-7.3	0
	25-80	3.0-8.0	---	5.1-7.8	0

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate
	In	meq/100 g	meq/100 g	pH	Pct
861F:					
Princeton	0-8	1.1-5.5	---	5.1-7.3	0
	8-31	7.0-15	---	5.0-7.3	0
	31-80	2.0-5.0	---	5.0-7.3	0
Bloomfield	0-8	1.8-8.1	---	5.1-7.3	0
	8-34	1.0-7.0	---	5.1-7.3	0
	34-60	3.0-8.0	---	5.1-7.8	0
864. Pits, quarries					
865. Pits, gravel					
871B:					
Lenzburg	0-5	13-24	---	6.6-8.4	0-20
	5-37	12-23	---	6.6-8.4	0-25
	37-80	12-23	---	7.4-8.4	0-25
871D:					
Lenzburg	0-5	17-29	---	6.6-8.4	0-20
	5-37	12-23	---	6.6-8.4	0-25
	37-80	12-23	---	7.4-8.4	0-25
898F2:					
Hickory	0-12	14-19	---	4.5-7.3	0
	12-48	16-22	---	4.5-7.3	0
	48-60	9.0-19	---	5.1-8.4	0-15
Sylvan	0-6	14-20	---	5.6-7.3	0
	6-28	15-22	---	5.6-7.3	0
	28-60	7.6-21	---	7.4-8.4	0-35
965C2:					
Tallula	0-12	10-18	---	6.6-7.8	0
	12-21	8.0-12	---	6.6-7.8	0
	21-31	8.0-12	---	6.6-7.8	0
	31-60	7.0-11	---	7.4-8.4	10-40
Bold	0-8	6.0-15	---	7.4-8.4	10-40
	8-60	5.0-12	---	7.4-8.4	10-50
965D2:					
Tallula	0-10	10-18	---	6.6-7.8	0
	10-26	8.0-12	---	6.6-7.8	0
	26-60	7.0-11	---	7.4-8.4	10-40
Bold	0-8	6.0-15	---	7.4-8.4	10-40
	8-60	5.0-12	---	7.4-8.4	10-50
3073A:					
Ross	0-13	13-23	---	6.1-7.3	0
	13-43	12-26	---	6.1-7.3	0
	43-60	4.6-17	---	6.1-7.8	0-1
3074A:					
Radford	0-12	15-24	---	5.6-7.8	0
	12-33	11-20	---	6.1-7.8	0
	33-80	14-23	---	6.1-7.8	0-20

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate
	In	meq/100 g	meq/100 g	pH	Pct
3077A:					
Huntsville	0-43	17-24	---	5.6-7.8	0
	43-60	11-17	---	5.6-7.8	0
3107+:					
Sawmill	0-11	19-26	---	6.1-7.8	0
	11-36	17-27	---	6.1-7.8	0
	36-53	16-25	---	6.1-7.8	0-10
	53-60	11-22	---	6.1-8.4	0-30
3107A:					
Sawmill	0-10	23-36	---	6.1-7.8	0
	10-32	23-36	---	6.1-7.8	0
	32-58	18-34	---	6.1-7.8	0
	58-65	18-34	---	6.1-7.8	0-5
3107S:					
Sawmill, sandy substratum	0-17	23-36	---	6.1-7.8	0
	17-24	23-36	---	6.1-7.8	0
	24-57	18-34	---	6.1-7.8	0
	57-80	2.6-8.6	---	6.1-7.8	0
3284A:					
Tice	0-14	20-27	---	6.1-7.8	0
	14-52	17-27	---	5.6-7.3	0
	52-72	9.0-20	---	5.6-7.8	0-20
3284S:					
Tice, sandy substratum	0-21	20-27	---	6.1-7.8	0
	21-57	16-23	---	5.6-7.3	0
	57-80	2.6-8.6	---	6.1-7.8	0
3304A:					
Landes	0-14	6.0-16	---	5.6-8.4	0
	14-32	3.0-13	---	5.6-8.4	0-10
	32-60	3.0-13	---	5.6-8.4	0-20
3405A:					
Zook	0-8	36-41	---	5.6-7.3	0
	8-55	36-41	---	6.1-7.3	0
	55-60	30-36	---	6.1-7.3	0
3408A:					
Aquents, loamy	0-9	7.8-20	---	5.6-8.3	0
	9-18	0.0-10	---	5.1-7.8	0
	18-41	20-30	---	5.6-7.8	0
	41-60	16-25	---	6.1-7.8	0-10
3451A:					
Lawson	0-14	11-28	---	6.1-7.8	0
	14-33	11-29	---	6.1-7.8	0
	33-80	11-23	---	6.1-7.8	0
7148A:					
Proctor	0-16	16-25	---	5.6-7.3	0
	16-34	16-23	---	5.6-6.5	0
	34-53	9.0-22	---	5.6-7.3	0
	53-60	3.0-7.0	---	6.1-7.3	0

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate
	In	meq/100 g	meq/100 g	pH	Pct
7191A:					
Knight	0-14	17-23	---	5.1-7.3	0
	14-25	13-20	---	5.1-7.3	0
	25-68	17-27	---	5.1-7.3	0
	68-80	4.1-23	---	6.1-7.8	0
7198A:					
Elburn	0-16	16-32	---	6.1-7.3	0
	16-49	17-31	---	5.6-7.3	0
	49-58	6.0-13	---	6.6-7.8	0-5
	58-62	2.0-10	---	6.6-7.8	0-15
7199A:					
Plano	0-14	17-26	---	6.1-7.3	0
	14-49	15-30	---	5.1-7.3	0
	49-60	9.0-20	---	5.6-7.8	0
	60-72	6.0-13	---	5.6-8.4	0-20
7304A:					
Landes	0-19	6.0-16	---	5.6-8.4	0
	19-32	3.0-15	---	5.6-8.4	0-10
	32-60	3.0-15	---	5.6-8.4	0-20
8074A:					
Radford	0-21	14-30	---	5.6-6.5	0
	21-29	10-26	---	6.1-7.3	0
	29-60	23-36	---	6.1-7.3	0
8107+:					
Sawmill	0-14	19-26	---	6.1-7.8	0
	14-47	17-27	---	6.1-7.8	0
	47-60	16-25	---	6.1-7.8	0-10
8107A:					
Sawmill	0-26	23-36	---	6.1-7.8	0
	26-53	18-34	---	6.1-7.8	0-5
	53-60	18-34	---	6.1-8.4	0-30
8284A:					
Tice	0-14	20-27	---	6.1-7.8	0
	14-80	16-23	---	5.1-7.3	0
8451A:					
Lawson	0-28	16-32	---	6.1-7.3	0
	28-60	10-25	---	6.1-7.3	0
8452A:					
Riley	0-8	20-27	---	5.6-7.8	0
	8-24	10-25	---	5.6-7.8	0
	24-31	10-25	---	5.6-7.8	0
	31-60	1.8-8.3	---	5.6-8.4	0-20

Table 22.--Water Features

(See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated)

Map symbol and soil name	Hydrologic group	Ponding			Flooding		Months	Water table		
		Surface water depth	Duration	Frequency	Duration	Frequency		Upper limit	Lower limit	Kind of water table
		Ft						Ft	Ft	
16A:										
Rushville	D	0.0-0.5	Brief	Frequent	---	None	Jan-May	0.0-1.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
17A:										
Keomah	C	---	---	None	---	None	Jan-May	0.5-2.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
27D2:										
Miami	B	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	2.0-3.5	2.1-3.6	Perched
		---	---	---	---	---	May-Dec	>6.0	>6.0	---
36A:										
Tama	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
36B:										
Tama	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
36C2:										
Tama	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
36D2:										
Tama	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
43A:										
Ipava	B	---	---	None	---	None	Jan-May	1.0-2.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
45A:										
Denny	D	0.0-1.0	Brief	Frequent	---	None	Jan-May	0.0-1.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
67A:										
Harpster	B/D	0.0-0.5	Brief	Frequent	---	None	Jan-May	0.0-1.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
68A:										
Sable	B/D	0.0-0.5	Brief	Frequent	---	None	Jan-May	0.0-1.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
86B:										
Osco	B	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	4.0-6.0	>6.0	Apparent
		---	---	---	---	---	May-Dec	>6.0	>6.0	---
86C2:										
Osco	B	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	4.0-6.0	>6.0	Apparent
		---	---	---	---	---	May-Dec	>6.0	>6.0	---
134C2:										
Camden	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
134C3:										
Camden	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---

Table 22.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Ponding			Flooding		Months	Water table		
		Surface water depth	Duration	Frequency	Duration	Frequency		Upper limit	Lower limit	Kind of water table
		Ft						Ft	Ft	
138A:										
Shiloh	B/D	0.0-1.0	Brief	Frequent	---	None	Jan-May	0.0-1.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
148B:										
Proctor	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
148C2:										
Proctor	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
148D2:										
Proctor	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
149A:										
Brenton	B	---	---	None	---	None	Jan-May	1.0-2.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
152A:										
Drummer	B/D	0.0-0.5	Brief	Frequent	---	None	Jan-May	0.0-1.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
159B:										
Pillot	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
159C2:										
Pillot	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
171B:										
Catlin	B	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	2.0-3.5	3.7-5.4	Perched
		---	---	---	---	---	May-Dec	>6.0	>6.0	---
171C2:										
Catlin	B	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	2.0-3.5	3.7-5.4	Perched
		---	---	---	---	---	May-Dec	>6.0	>6.0	---
171D2:										
Catlin	B	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	2.0-3.5	3.7-5.4	Perched
		---	---	---	---	---	May-Dec	>6.0	>6.0	---
191A:										
Knight	C/D	0.0-0.5	Brief	Frequent	---	None	Jan-May	0.0-1.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
198A:										
Elburn	B	---	---	None	---	None	Jan-May	1.0-2.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
199A:										
Plano	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
199B:										
Plano	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
199C2:										
Plano	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
206A:										
Thorp	C/D	0.0-0.5	Brief	Frequent	---	None	Jan-May	0.0-1.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---

Table 22.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Ponding			Flooding		Months	Water table		
		Surface water depth	Duration	Frequency	Duration	Frequency		Upper limit	Lower limit	Kind of water table
		Ft						Ft	Ft	
212C2:										
Thebes	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
233B:										
Birkbeck	B	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	2.0-3.5	3.3-5.8	Perched
		---	---	---	---	---	May-Dec	>6.0	>6.0	---
233C2:										
Birkbeck	B	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	2.0-3.5	3.3-5.8	Perched
		---	---	---	---	---	May-Dec	>6.0	>6.0	---
243A:										
St. Charles	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
243B:										
St. Charles	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
243C2:										
St. Charles	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
244A:										
Hartsburg	B/D	0.0-0.5	Brief	Frequent	---	None	Jan-May	0.0-1.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
257A:										
Clarksdale	C	---	---	None	---	None	Jan-May	0.5-2.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
272A:										
Edgington	C/D	0.0-0.5	Brief	Frequent	---	None	Jan-May	0.0-1.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
279A:										
Rozetta	B	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	4.0-6.0	>6.0	Apparent
		---	---	---	---	---	May-Dec	>6.0	>6.0	---
279B:										
Rozetta	B	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	4.0-6.0	>6.0	Apparent
		---	---	---	---	---	May-Dec	>6.0	>6.0	---
279B2:										
Rozetta	B	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	2.0-3.5	5.0-6.7	Perched
		---	---	---	---	---	May-Dec	>6.0	>6.0	---
279C2:										
Rozetta	B	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	4.0-6.0	>6.0	Apparent
		---	---	---	---	---	May-Dec	>6.0	>6.0	---
279C3:										
Rozetta	B	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	4.0-6.0	>6.0	Apparent
		---	---	---	---	---	May-Dec	>6.0	>6.0	---

Table 22.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Ponding			Flooding		Months	Water table		
		Surface water depth	Duration	Frequency	Duration	Frequency		Upper limit	Lower limit	Kind of water table
		Ft						Ft	Ft	
279D2:										
Rozetta	B	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	4.0-6.0	>6.0	Apparent
		---	---	---	---	---	May-Dec	>6.0	>6.0	---
280C2:										
Fayette	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
280D2:										
Fayette	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
374A:										
Proctor, sandy substratum	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
533:										
Urban land	D	---	---	None	---	None	Jan-Dec	---	---	---
567C2:										
Elkhart	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
618F:										
Senachwine	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
622C2:										
Wyanet	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
622D2:										
Wyanet	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
663A:										
Clare	B	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	2.0-3.5	>6.0	Apparent
		---	---	---	---	---	May-Dec	>6.0	>6.0	---
683A:										
Lawndale	B	---	---	None	---	None	Jan-May	1.0-2.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
684A:										
Broadwell	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
684B:										
Broadwell	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
684C2:										
Broadwell	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
685B:										
Middletown	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
685C2:										
Middletown	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
685D2:										
Middletown	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
705A:										
Buckhart	B	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	2.0-3.5	>6.0	Apparent
		---	---	---	---	---	May-Dec	>6.0	>6.0	---

Table 22.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Ponding			Flooding		Months	Water table		
		Surface water depth	Duration	Frequency	Duration	Frequency		Upper limit	Lower limit	Kind of water table
		Ft						Ft	Ft	
705B:										
Buckhart	B	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	2.0-3.5	>6.0	Apparent
		---	---	---	---	---	May-Dec	>6.0	>6.0	---
712A:										
Spaulding	B/D	0.0-0.5	Brief	Frequent	---	None	Jan-May	0.0-1.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
726A:										
Elburn, sandy substratum	B	---	---	None	---	None	Jan-May	1.0-2.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
733C2:										
Birkbeck	B	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	2.0-3.5	3.3-5.8	Perched
		---	---	---	---	---	May-Dec	>6.0	>6.0	---
Senachwine	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
733C3:										
Birkbeck	B	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	2.0-3.5	3.3-5.8	Perched
		---	---	---	---	---	May-Dec	>6.0	>6.0	---
Senachwine	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
736D2:										
Senachwine	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
Russell	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
737A:										
Tama, very deep to sand	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
737B:										
Tama, very deep to sand	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
737C2:										
Tama, very deep to sand	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
748A:										
Plano, sandy substratum	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
748B:										
Plano, sandy substratum	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
748C2:										
Plano, sandy substratum	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
749B:										
Buckhart, till substratum	B	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	2.0-3.5	5.0-6.7	Perched
		---	---	---	---	---	May-Dec	>6.0	>6.0	---

Table 22.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Ponding			Flooding		Months	Water table		
		Surface water depth	Duration	Frequency	Duration	Frequency		Upper limit	Lower limit	Kind of water table
		Ft						Ft	Ft	
802B:										
Orthents, loamy	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
802E:										
Orthents, loamy	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
827A:										
Broadwell	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
Onarga	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
827B:										
Broadwell	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
Onarga	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
827B2:										
Broadwell	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
Onarga	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
828D2:										
Broadwell	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
Sparta	A	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
830:										
Landfills	C	---	---	None	---	None	Jan-Dec	---	---	---
861B2:										
Princeton	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
Bloomfield	A	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
861D2:										
Princeton	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
Bloomfield	A	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
861F:										
Princeton	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
Bloomfield	A	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
864.										
Pits, quarries										
865.										
Pits, gravel										
871B:										
Lenzburg	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
871D:										
Lenzburg	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
898F2:										
Hickory	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
Sylvan	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---

Table 22.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Ponding			Flooding		Months	Water table		
		Surface water depth	Duration	Frequency	Duration	Frequency		Upper limit	Lower limit	Kind of water table
		Ft						Ft	Ft	
965C2:										
Tallula	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
Bold	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
965D2:										
Tallula	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
Bold	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
3073A:										
Ross	B	---	---	None	Brief	Frequent	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	4.0-6.0	>6.0	Apparent
		---	---	---	---	---	May-Dec	>6.0	>6.0	---
3074A:										
Radford	B	---	---	None	Brief	Frequent	Jan-May	1.0-2.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
3077A:										
Huntsville	B	---	---	None	Brief	Frequent	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	4.0-6.0	>6.0	Apparent
		---	---	---	---	---	May-Dec	>6.0	>6.0	---
3107+:										
Sawmill	B/D	---	---	None	Brief	Frequent	Jan-May	0.0-1.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
3107A:										
Sawmill	B/D	0.0-0.5	Brief	Frequent	Brief	Frequent	Jan-May	0.0-1.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
3107S:										
Sawmill, sandy substratum	B/D	0.0-0.5	Brief	Frequent	Brief	Frequent	Jan-May	0.0-1.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
3284A:										
Tice	B	---	---	None	Brief	Frequent	Jan-May	1.0-2.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
3284S:										
Tice, sandy substratum	B	---	---	None	Brief	Frequent	Jan-May	1.0-2.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
3304A:										
Landes	B	---	---	None	Brief	Frequent	Jan-Dec	>6.0	>6.0	---
3405A:										
Zook	C/D	0.0-0.5	Brief	Frequent	Brief	Frequent	Jan-May	0.0-1.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
3408A:										
Aquents, loamy	B/D	0.0-0.5	Long	Frequent	Brief	Frequent	Jan-Dec	0.0-1.0	>6.0	Apparent
3451A:										
Lawson	B	---	---	None	Brief	Frequent	Jan-May	1.0-2.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
7148A:										
Proctor	B	---	---	None	---	Rare	Jan-Dec	>6.0	>6.0	---

Table 22.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Ponding			Flooding		Months	Water table		
		Surface water depth	Duration	Frequency	Duration	Frequency		Upper limit	Lower limit	Kind of water table
		Ft						Ft	Ft	
7191A:										
Knight	C/D	0.0-0.5	Brief	Frequent	---	Rare	Jan-May	0.0-1.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
7198A:										
Elburn	B	---	---	None	---	Rare	Jan-May	1.0-2.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
7199A:										
Plano	B	---	---	None	---	Rare	Jan-Dec	>6.0	>6.0	---
7304A:										
Landes	B	---	---	None	---	Rare	Jan-Dec	>6.0	>6.0	---
8074A:										
Radford	B	---	---	None	Brief	Occasional	Jan-May	1.0-2.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
8107+:										
Sawmill	B/D	---	---	None	Brief	Occasional	Jan-May	0.0-1.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
8107A:										
Sawmill	B/D	0.0-0.5	Brief	Frequent	Brief	Occasional	Jan-May	0.0-1.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
8284A:										
Tice	B	---	---	None	Brief	Occasional	Jan-May	1.0-2.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
8451A:										
Lawson	B	---	---	None	Brief	Occasional	Jan-May	1.0-2.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
8452A:										
Riley	B	---	---	None	Brief	Occasional	Jan-May	1.0-2.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---

Table 23.--Soil Features

(See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated)

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
		In				
16A:						
Rushville	Abrupt textural change	9-19	Noncemented	High	High	High
17A:						
Keomah	---	---	---	High	High	Moderate
27D2:						
Miami	Dense material	24-40	Noncemented	Moderate	High	Moderate
36A:						
Tama	---	---	---	High	Moderate	Moderate
36B:						
Tama	---	---	---	High	Moderate	Moderate
36C2:						
Tama	---	---	---	High	Moderate	Moderate
36D2:						
Tama	---	---	---	High	Moderate	Moderate
43A:						
Ipava	---	---	---	High	High	Moderate
45A:						
Denny	Abrupt textural change	10-24	Noncemented	High	High	Moderate
67A:						
Harpster	---	---	---	High	High	Low
68A:						
Sable	---	---	---	High	High	Low
86B:						
Osco	---	---	---	High	Moderate	Moderate
86C2:						
Osco	---	---	---	High	Moderate	Moderate
134C2:						
Camden	---	---	---	High	Moderate	Moderate
134C3:						
Camden	---	---	---	High	Moderate	Moderate
138A:						
Shiloh	---	---	---	High	High	Low
148B:						
Proctor	---	---	---	High	Moderate	Moderate
148C2:						
Proctor	---	---	---	High	Moderate	Moderate
148D2:						
Proctor	---	---	---	High	Moderate	Moderate

Table 23.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
		In				
149A:						
Brenton	---	---	---	High	High	Moderate
152A:						
Drummer	---	---	---	High	High	Moderate
159B:						
Pillot	Strongly contrasting textural stratification	20-40	Noncemented	High	Moderate	Moderate
159C2:						
Pillot	Strongly contrasting textural stratification	20-40	Noncemented	High	Moderate	Moderate
171B:						
Catlin	---	---	---	High	High	Moderate
171C2:						
Catlin	---	---	---	High	High	Moderate
171D2:						
Catlin	---	---	---	High	High	Moderate
191A:						
Knight	---	---	---	High	High	Moderate
198A:						
Elburn	---	---	---	High	High	Moderate
199A:						
Plano	---	---	---	High	Moderate	Moderate
199B:						
Plano	---	---	---	High	Moderate	Moderate
199C2:						
Plano	---	---	---	High	Moderate	Moderate
206A:						
Thorp	---	---	---	High	High	Moderate
212C2:						
Thebes	---	---	---	High	Moderate	Moderate
233B:						
Birkbeck	---	---	---	High	High	High
233C2:						
Birkbeck	---	---	---	High	High	High
243A:						
St. Charles	---	---	---	High	Moderate	High
243B:						
St. Charles	---	---	---	High	Moderate	High

Table 23.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
		In				
243C2:						
St. Charles	---	---	---	High	Moderate	High
244A:						
Hartsburg	---	---	---	High	High	Low
257A:						
Clarksdale	---	---	---	High	High	Moderate
272A:						
Edgington	---	---	---	High	High	Moderate
279A:						
Rozetta	---	---	---	High	Moderate	High
279B:						
Rozetta	---	---	---	High	Moderate	High
279B2:						
Rozetta	---	---	---	High	Moderate	Moderate
279C2:						
Rozetta	---	---	---	High	Moderate	High
279C3:						
Rozetta	---	---	---	High	Moderate	High
279D2:						
Rozetta	---	---	---	High	Moderate	High
280C2:						
Fayette	---	---	---	High	Moderate	High
280D2:						
Fayette	---	---	---	High	Moderate	High
374A:						
Proctor, sandy substratum	Strongly contrasting textural stratification	40-60	---	High	Moderate	Moderate
533.						
Urban land						
567C2:						
Elkhart	---	---	---	High	Moderate	Moderate
618F:						
Senachwine	---	---	---	Moderate	Moderate	Moderate
622C2:						
Wyanet	---	---	---	Moderate	Moderate	Moderate
622D2:						
Wyanet	---	---	---	Moderate	Moderate	Moderate
663A:						
Clare	---	---	---	High	High	Moderate

Table 23.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
		In				
683A:						
Lawndale	---	---	---	High	High	Moderate
684A:						
Broadwell	---	---	---	High	Moderate	Moderate
684B:						
Broadwell	---	---	---	High	Moderate	Moderate
684C2:						
Broadwell	---	---	---	High	Moderate	Moderate
685B:						
Middletown	---	---	---	High	Moderate	Moderate
685C2:						
Middletown	---	---	---	High	Moderate	Moderate
685D2:						
Middletown	---	---	---	High	Moderate	Moderate
705A:						
Buckhart	---	---	---	High	High	Moderate
705B:						
Buckhart	---	---	---	High	High	Moderate
712A:						
Spaulding	---	---	---	High	High	Low
726A:						
Elburn, sandy substratum	Strongly contrasting textural stratification	40-60	---	High	High	Moderate
733C2:						
Birkbeck	---	---	---	High	High	Moderate
Senachwine	---	---	---	Moderate	Moderate	Moderate
733C3:						
Birkbeck	---	---	---	High	High	Moderate
Senachwine	---	---	---	Moderate	Moderate	Moderate
736D2:						
Senachwine	---	---	---	Moderate	Moderate	Moderate
Russell	---	---	---	High	Moderate	Moderate
737A:						
Tama, very deep to sand	Strongly contrasting textural stratification	60-80	---	High	Moderate	Moderate
737B:						
Tama, very deep to sand	Strongly contrasting textural stratification	60-80	---	High	Moderate	Moderate

Table 23.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
		In				
737C2:						
Tama, very deep to sand	Strongly contrasting textural stratification	60-80	---	High	Moderate	Moderate
748A:						
Plano, sandy substratum	Strongly contrasting textural stratification	40-60	---	High	Moderate	Moderate
748B:						
Plano, sandy substratum	Strongly contrasting textural stratification	40-60	---	High	Moderate	Moderate
748C2:						
Plano, sandy substratum	Strongly contrasting textural stratification	40-60	---	High	Moderate	Moderate
749B:						
Buckhart, till substratum	---	---	---	High	High	Moderate
802B:						
Orthents, loamy	---	---	---	Moderate	Low	Moderate
802E:						
Orthents, loamy	---	---	---	Moderate	Low	Moderate
827A:						
Broadwell	---	---	---	High	Moderate	Moderate
Onarga	---	---	---	Moderate	Low	Moderate
827B:						
Broadwell	---	---	---	High	Moderate	Moderate
Onarga	---	---	---	Moderate	Low	Moderate
827B2:						
Broadwell	---	---	---	High	Moderate	Moderate
Onarga	---	---	---	Moderate	Low	Moderate
828D2:						
Broadwell	---	---	---	High	Moderate	Moderate
Sparta	---	---	---	Low	Low	High
830.						
Landfills						
861B2:						
Princeton	---	---	---	Moderate	Moderate	Moderate
Bloomfield	---	---	---	Low	Low	High

Table 23.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
		In				
861D2:						
Princeton	---	---	---	Moderate	Moderate	Moderate
Bloomfield	---	---	---	Low	Low	High
861F:						
Princeton	---	---	---	Moderate	Moderate	Moderate
Bloomfield	---	---	---	Low	Low	High
864. Pits, quarries						
865. Pits, gravel						
871B:						
Lenzburg	---	---	---	Moderate	Moderate	Low
871D:						
Lenzburg	---	---	---	Moderate	Moderate	Low
898F2:						
Hickory	---	---	---	Moderate	Moderate	High
Sylvan	---	---	---	High	Moderate	Moderate
965C2:						
Tallula	---	---	---	High	Low	Low
Bold	---	---	---	High	Low	Low
965D2:						
Tallula	---	---	---	High	Low	Low
Bold	---	---	---	High	Low	Low
3073A:						
Ross	---	---	---	Moderate	Low	Low
3074A:						
Radford	---	---	---	High	High	Low
3077A:						
Huntsville	---	---	---	High	Low	Moderate
3107+:						
Sawmill	---	---	---	High	High	Low
3107A:						
Sawmill	---	---	---	High	High	Low
3107S:						
Sawmill, sandy substratum	Strongly contrasting textural stratification	40-60	Noncemented	High	High	Low
3284A:						
Tice	---	---	---	High	High	Moderate

Table 23.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
		In				
3284S:						
Tice, sandy substratum	Strongly contrasting textural stratification	40-60	Noncemented	High	High	Moderate
3304A:						
Landes	---	---	---	Moderate	Low	Moderate
3405A:						
Zook	---	---	---	High	High	Low
3408A:						
Aquents, loamy	---	---	---	High	Moderate	Moderate
3451A:						
Lawson	---	---	---	High	High	Low
7148A:						
Proctor	---	---	---	High	Moderate	Moderate
7191A:						
Knight	---	---	---	High	High	Moderate
7198A:						
Elburn	---	---	---	High	High	Moderate
7199A:						
Plano	---	---	---	High	Moderate	Moderate
7304A:						
Landes	---	---	---	Moderate	Low	Moderate
8074A:						
Radford	---	---	---	High	High	Low
8107+:						
Sawmill	---	---	---	High	High	Low
8107A:						
Sawmill	---	---	---	High	High	Low
8284A:						
Tice	---	---	---	High	High	Moderate
8451A:						
Lawson	---	---	---	High	High	Low
8452A:						
Riley	Strongly contrasting textural stratification	20-40	Noncemented	Moderate	High	Moderate

NRCS Accessibility Statement

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INDEX TO MAP SHEETS
LOGAN COUNTY, ILLINOIS

1 0 1 2 3
MILES

1 0 1 2 3 4 5 6
KILOMETERS

SCALE = 1:90000

N

89°30'00"
89°15'00"
40°15'00"
40°00'00"

1 DELAVAN SOUTH NW
2 DELAVAN SOUTH NE
3 EMDEN NW
4 EMDEN NE
5 ARMINGTON NW
6 ARMINGTON NE
7 DELAVAN SOUTH SW
8 DELAVAN SOUTH SE
9 EMDEN SW
10 EMDEN SE
11 ARMINGTON SW
12 ARMINGTON SE
13 MCLEAN SW
14 MCLEAN SE
15 NEW HOLLAND NW
16 NEW HOLLAND NE
17 LINCOLN WEST NW
18 LINCOLN WEST NE
19 LINCOLN EAST NW
20 LINCOLN EAST NE
21 WAYNESVILLE WEST NW
22 WAYNESVILLE WEST NE
23 NEW HOLLAND SW
24 NEW HOLLAND SE
25 LINCOLN WEST SW
26 LINCOLN WEST SE
27 LINCOLN EAST SW
28 LINCOLN EAST SE
29 WAYNESVILLE WEST SW
30 WAYNESVILLE WEST SE
31 MIDDLETON NW
32 MIDDLETON NE
33 BROADWELL NW
34 BROADWELL NE
35 MOUNT PULASKI NW
36 MOUNT PULASKI NE
37 CHESTNUT NW
38 CHESTNUT NE
39 MIDDLETON SW
40 MIDDLETON SE
41 BROADWELL SW
42 BROADWELL SE
43 MOUNT PULASKI SW
44 MOUNT PULASKI SE
45 CHESTNUT SW
46 CHESTNUT SE
47 WILLIAMSVILLE NW
48 WILLIAMSVILLE NE
49 CORNLAND NW
50 CORNLAND NE
51 LAKE FORK NW
52 LAKE FORK NE
53 LATHAM NW
54 LATHAM NE
55 CORNLAND SW
56 CORNLAND SE
57 LAKE FORK SW
58 LAKE FORK SE
59 LATHAM SW
60 LATHAM SE

TAZEWELL COUNTY
MCLEAN COUNTY
MASON COUNTY
SANGAMON COUNTY
MENARD COUNTY
DE WITT COUNTY
MACON COUNTY

R 4 W
R 3 W
R 2 W
R 1 W

T 22 N
T 21 N
T 20 N
T 19 N
T 18 N
T 17 N

DELAVAN
EMDEN
ARMINGTON
MCLEAN
PRAIRIE CREEK
ORVIL
EMINENCE
ATLANTA
SHERIDAN
WEST LINCOLN
EAST LINCOLN
ORAN
CORWIN
BROADWELL
CHESTNUT
AETNA
HURLBUT
MOUNT PULASKI
LAENNA
ELKHART
LAKE FORK

Emden
Hartsburg
Atlanta
New Holland
Lincoln
Middletown
Broadwell
Elkhart
Mount Pulaski
Latham

Prairie Creek
Ditch Creek
Sugar Creek
Kickapoo Creek
Salt Creek
Deer Creek
Brainards Branch
Salt Springs Branch
Clear Creek
Kickapoo
Sugar
Fork
West Fork
Pike Creek
Slough
Lake Fork
North Fork
South Fork

SECTIONALIZED TOWNSHIP

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

SOIL LEGEND

Map unit symbols consist of a combination of numbers and letters. The initial numbers represent the kind of soil or miscellaneous area. An uppercase letter following these numbers indicates the class of slope, except that the letter "S" indicates a sandy substratum. A plus sign (+) indicates an overwash phase. A final number of 2 following the slope class letter indicates that the soil is moderately eroded, and a final number of 3 indicates that the soil is severely eroded. Symbols that do not have a final number of 2 or 3 following a slope class letter indicate map units that are not eroded or are only slightly eroded. Symbols for miscellaneous areas do not have a slope class letter.

SYMBOL	NAME
16A	Rushville silt loam, 0 to 2 percent slopes
17A	Keomah silt loam, 0 to 2 percent slopes
27D2	Miami silt loam, 10 to 18 percent slopes, eroded
36A	Tama silt loam, 0 to 2 percent slopes
36B	Tama silt loam, 2 to 5 percent slopes
36C2	Tama silt loam, 5 to 10 percent slopes, eroded
36D2	Tama silt loam, 10 to 18 percent slopes, eroded
43A	Ipava silt loam, 0 to 2 percent slopes
45A	Denny silt loam, 0 to 2 percent slopes
67A	Harpster silty clay loam, 0 to 2 percent slopes
68A	Sable silty clay loam, 0 to 2 percent slopes
86B	Osco silt loam, 2 to 5 percent slopes
86C2	Osco silt loam, 5 to 10 percent slopes, eroded
134C2	Camden silt loam, 5 to 10 percent slopes, eroded
134C3	Camden silty clay loam, 5 to 10 percent slopes, severely eroded
138A	Shiloh silty clay loam, 0 to 2 percent slopes
148B	Proctor silt loam, 2 to 5 percent slopes
148C2	Proctor silt loam, 5 to 10 percent slopes, eroded
148D2	Proctor silt loam, 10 to 18 percent slopes, eroded
149A	Brenton silt loam, 0 to 2 percent slopes
152A	Drummer silty clay loam, 0 to 2 percent slopes
159B	Pillot silt loam, 2 to 5 percent slopes
159C2	Pillot silt loam, 5 to 10 percent slopes, eroded
171B	Catlin silt loam, 2 to 5 percent slopes
171C2	Catlin silt loam, 5 to 10 percent slopes, eroded
171D2	Catlin silt loam, 10 to 18 percent slopes, eroded
191A	Knight silt loam, 0 to 2 percent slopes
198A	Elburn silt loam, 0 to 2 percent slopes
199A	Plano silt loam, 0 to 2 percent slopes
199B	Plano silt loam, 2 to 5 percent slopes
199C2	Plano silt loam, 5 to 10 percent slopes, eroded
206A	Thorp silt loam, 0 to 2 percent slopes
212C2	Thebes silt loam, 5 to 10 percent slopes, eroded
233B	Birkbeck silt loam, 2 to 5 percent slopes
233C2	Birkbeck silt loam, 5 to 10 percent slopes, eroded
243A	St. Charles silt loam, 0 to 2 percent slopes
243B	St. Charles silt loam, 2 to 5 percent slopes
243C2	St. Charles silt loam, 5 to 10 percent slopes, eroded
244A	Hartsburg silty clay loam, 0 to 2 percent slopes
257A	Clarksdale silt loam, 0 to 2 percent slopes
272A	Edgington silt loam, 0 to 2 percent slopes
279A	Rozetta silt loam, 0 to 2 percent slopes
279B	Rozetta silt loam, 2 to 5 percent slopes
279B2	Rozetta silt loam, 2 to 5 percent slopes, eroded
279C2	Rozetta silt loam, 5 to 10 percent slopes, eroded
279C3	Rozetta silty clay loam, 5 to 10 percent slopes, severely eroded
279D2	Rozetta silt loam, 10 to 18 percent slopes, eroded
280C2	Fayette silt loam, 5 to 10 percent slopes, eroded
280D2	Fayette silt loam, 10 to 18 percent slopes, eroded
374A	Proctor silt loam, sandy substratum, 0 to 2 percent slopes
533	Urban land
567C2	Elkhart silt loam, 5 to 10 percent slopes, eroded
618F	Senachwine silt loam, 18 to 35 percent slopes
622C2	Wyanet silt loam, 5 to 10 percent slopes, eroded
622D2	Wyanet silt loam, 10 to 18 percent slopes, eroded
663A	Clare silt loam, 0 to 2 percent slopes
683A	Lawndale silt loam, 0 to 2 percent slopes
684A	Broadwell silt loam, 0 to 2 percent slopes
684B	Broadwell silt loam, 2 to 5 percent slopes
684C2	Broadwell silt loam, 5 to 10 percent slopes, eroded
685B	Middletown silt loam, 2 to 5 percent slopes
685C2	Middletown silt loam, 5 to 10 percent slopes, eroded
685D2	Middletown silt loam, 10 to 18 percent slopes, eroded
705A	Buckhart silt loam, 0 to 2 percent slopes
705B	Buckhart silt loam, 2 to 5 percent slopes
712A	Spaulding silty clay loam, 0 to 2 percent slopes
726A	Elburn silt loam, sandy substratum, 0 to 2 percent slopes
733C2	Birkbeck-Senachwine silt loams, 5 to 10 percent slopes, eroded
733C3	Birkbeck-Senachwine complex, 5 to 10 percent slopes, severely eroded
736D2	Senachwine-Russell silt loams, 10 to 18 percent slopes, eroded
737A	Tama silt loam, very deep to sand, 0 to 2 percent slopes
737B	Tama silt loam, very deep to sand, 2 to 5 percent slopes
737C2	Tama silt loam, very deep to sand, 5 to 10 percent slopes, eroded
748A	Plano silt loam, sandy substratum, 0 to 2 percent slopes
748B	Plano silt loam, sandy substratum, 2 to 5 percent slopes
748C2	Plano silt loam, sandy substratum, 5 to 10 percent slopes, eroded
749B	Buckhart silt loam, till substratum, 2 to 5 percent slopes
802B	Orthents, loamy, undulating
802E	Orthents, loamy, hilly
827A	Broadwell-Onarga complex, 0 to 2 percent slopes
827B	Broadwell-Onarga complex, 2 to 5 percent slopes
827B2	Broadwell-Onarga complex, 2 to 5 percent slopes, eroded
828D2	Broadwell-Sparta complex, 7 to 15 percent slopes, eroded
830	Landfills
861B2	Princeton-Bloomfield fine sands, 1 to 7 percent slopes, eroded
861D2	Princeton-Bloomfield fine sands, 7 to 15 percent slopes, eroded
861F	Princeton-Bloomfield fine sands, 15 to 35 percent slopes
864	Pits, quarries
865	Pits, gravel
871B	Lenzburg silt loam, 1 to 7 percent slopes
871D	Lenzburg silty clay loam, 7 to 20 percent slopes
898F2	Hickory-Sylvan complex, 18 to 35 percent slopes, eroded
965C2	Tallula-Bold silt loams, 5 to 10 percent slopes, eroded
965D2	Tallula-Bold silt loams, 10 to 18 percent slopes, eroded
3073A	Ross silt loam, 0 to 2 percent slopes, frequently flooded
3074A	Radford silt loam, 0 to 2 percent slopes, frequently flooded
3077A	Huntsville silt loam, 0 to 2 percent slopes, frequently flooded
3107+	Sawmill silt loam, overwash, 0 to 2 percent slopes, frequently flooded
3107A	Sawmill silty clay loam, 0 to 2 percent slopes, frequently flooded
3107S	Sawmill silty clay loam, sandy substratum, 0 to 2 percent slopes, frequently flooded
3284A	Tice silty clay loam, 0 to 2 percent slopes, frequently flooded
3284S	Tice silty clay loam, sandy substratum, 0 to 2 percent slopes, frequently flooded
3304A	Landes fine sandy loam, 0 to 2 percent slopes, frequently flooded
3405A	Zook silty clay loam, 0 to 2 percent slopes, frequently flooded
3408A	Aquents, loamy, level, frequently flooded
3451A	Lawson silt loam, 0 to 2 percent slopes, frequently flooded
7148A	Proctor silt loam, 0 to 2 percent slopes, rarely flooded
7191A	Knight silt loam, 0 to 2 percent slopes, rarely flooded
7198A	Elburn silt loam, 0 to 2 percent slopes, rarely flooded
7199A	Plano silt loam, 0 to 2 percent slopes, rarely flooded
7304A	Landes fine sandy loam, 0 to 2 percent slopes, rarely flooded
8074A	Radford silt loam, 0 to 2 percent slopes, occasionally flooded
8107+	Sawmill silt loam, overwash, 0 to 2 percent slopes, occasionally flooded
8107A	Sawmill silty clay loam, 0 to 2 percent slopes, occasionally flooded
8284A	Tice silty clay loam, 0 to 2 percent slopes, occasionally flooded
8451A	Lawson silt loam, 0 to 2 percent slopes, occasionally flooded
8452A	Riley loam, 0 to 2 percent slopes, occasionally flooded
M-W	Miscellaneous water
W	Water

CONVENTIONAL AND SPECIAL SYMBOLS LEGEND

CULTURAL FEATURES

BOUNDARIES

- National, state, or province
- County or parish
- Minor civil division
- Reservation (national forest or park, state forest or park)
- Land grant
- Limit of soil survey (label) and/or denied access area
- Field sheet matchline & neatline
- Previously Published Survey

OTHER BOUNDARY (label)

- Airport, airfield
- Cemetery
- City/county park

STATE COORDINATE TICK
1 890 000 FEET

LAND DIVISION CORNER
(section and land grants)

GEOGRAPHIC COORDINATE TICK

TRANSPORTATION

- Divided roads
- Other roads
- Trail

ROAD EMBLEM & DESIGNATIONS

- Interstate (173; 79 345)
- Federal (287; 410 224)
- State (52; 52 347)
- County, farm or ranch (1283)

RAILROAD

POWER TRANSMISSION LINE
(normally not shown)

PIPE LINE (normally not shown)

FENCE (normally not shown)

LEVEES

- Without road
- With road
- With railroad
- Single side slope (showing actual feature location)

DAMS

- Medium or Small (W)

LANDFORM FEATURES

- Prominent hill or peak
- Soil Sample Site (S)

MISCELLANEOUS CULTURAL FEATURES

- Farmstead, house (omit in urban areas)
- Church
- School
- Other Religion (label) (Mt Carmel)
- Located object (label) (Ranger Station)
- Tank (label) (Petroleum)
- Lookout Tower
- Oil and/or Natural Gas Wells
- Windmill
- Lighthouse

HYDROGRAPHIC FEATURES

STREAMS

- Perennial, double line
- Perennial, single line — Label only
- Intermittent — Label only
- Drainage end — Label only

DRAINAGE AND IRRIGATION

- Double-line canal (label) (CANAL)
- Perennial drainage and/or irrigation ditch — Label only
- Intermittent drainage and/ or irrigation ditch — Label only

SMALL LAKES, PONDS AND RESERVOIRS

- Perennial water
- Miscellaneous water
- Flood pool line (FLOOD POOL LINE)

MISCELLANEOUS WATER FEATURES

- Spring
- Well, artesian
- Well, irrigation

SPECIAL SYMBOLS FOR SOIL SURVEY AND SSURGO

SOIL DELINEATIONS AND SYMBOLS (16A 36A)

LANDFORM FEATURES

ESCARPMENTS

- Bedrock
- Other than bedrock

SHORT STEEP SLOPE

GULLY

DEPRESSION, closed

SINKHOLE

EXCAVATIONS

PITS

- Borrow pits
- Gravel pit
- Mine or quarry

LANDFILL

MISCELLANEOUS SURFACE FEATURES

- Blowout
- Clay spot
- Gravelly spot
- Lava flow
- Marsh or swamp
- Rock outcrop (includes sandstone and shale)
- Saline spot
- Sandy spot
- Severely eroded spot
- Slide or slip
- Sodic spot
- Spoil area
- Stony spot
- Very stony spot
- Wet spot

AD HOC FEATURES

- Calcareous spot
- Grey spot

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

LOGAN COUNTY, ILLINOIS
DELAVAN SOUTH NW QUADRANGLE
SHEET NUMBER 1 OF 60

89° 37′ 30″ — 89° 33′ 45″ — 40° 22′ 30″ — 40° 18′ 45″

277 000m E — 278 — 279 — 280 — 281 — 282

4472 — 4471 — 4470 — 4469 — 4468 — 4467 — 4466 000m N

MASON COUNTY — TAZEWELL COUNTY

31 — 32 — 33

T. 22 N.

R. 5 W. | R. 4 W.

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies.
Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1998 - 1999 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

		2	2 DELAVAN SOUTH NE
	7	8	7 DELAVAN SOUTH SW 8 DELAVAN SOUTH SE

INDEX TO ADJOINING 3.75 MAPS

DELAVAN SOUTH NW, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 1 OF 60

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

LOGAN COUNTY, ILLINOIS
DELAVAN SOUTH NE QUADRANGLE
SHEET NUMBER 2 OF 60

89° 33′ 45″ — 89° 30′ 00″ — 40° 22′ 30″ — 40° 18′ 45″

283000m E — 284 — 285 — 286 — 287

4472 — 4471 — 4470 — 4469 — 4468 — 4467 — 4466000mN

T. 22 N.

R. 4 W.

TAZEWELL COUNTY

DITCH

CREEK

PRAIRIE

33 — 34 — 35 — 36

272A 737A 737B 191A 198A 199B 827B 152A 159B 726A 684A 684C2 827B2 43A 68A 726A 152A 748A 748B 684B 67A 148B 199A 191B 198B

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NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

1		3
7	8	9

1 DELAVAN SOUTH NW
3 EMDEN NW
7 DELAVAN SOUTH SW
8 DELAVAN SOUTH SE
9 EMDEN SW

INDEX TO ADJOINING 3.75 MAPS

DELAVAN SOUTH NE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 2 OF 60

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UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

LOGAN COUNTY, ILLINOIS
EMDEN NW QUADRANGLE
SHEET NUMBER 3 OF 60

89° 30′ 00″ — 89° 26′ 15″ — 40° 22′ 30″ — 40° 18′ 45″

288000m E · 289 · 290 · 291 · 292 · 293

4472 · 4471 · 4470 · 4469 · 4468 · 4467 · 4466000m N



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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

2		4
8	9	10

2 DELAVAN SOUTH NE
4 EMDEN NE
8 DELAVAN SOUTH SE
9 EMDEN SW
10 EMDEN SE

INDEX TO ADJOINING 3.75 MAPS

EMDEN NW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 3 OF 60

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

LOGAN COUNTY, ILLINOIS
EMDEN NE QUADRANGLE
SHEET NUMBER 4 OF 60

89° 26′15″ — 89° 22′30″ — 40° 22′30″ — 40° 18′45″

293000m E — 294 — 295 — 296 — 297 — 298

4471 — 4470 — 4469 — 4468 — 4467 — 4466 000m N — 4465 000m N

TAZEWELL COUNTY

T. 22 N.

R. 3 W. | R. 2 W.

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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

3		5
9	10	11

3 EMDEN NW
5 ARMINGTON NW
9 EMDEN SW
10 EMDEN SE
11 ARMINGTON SW

INDEX TO ADJOINING 3.75 MAPS

EMDEN NE, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 4 OF 60

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

LOGAN COUNTY, ILLINOIS
ARMINGTON NW QUADRANGLE
SHEET NUMBER 5 OF 60

89°22′30″ 89°18′45″ 40°22′30″ 40°18′45″

299000m E 300 301 302 303

4471 4470 4469 4468 4467 4466 4465000m N

TAZEWELL COUNTY

T. 22 N.

R. 2 W.

31 32 33 34

Middle Fork Sugar Creek

West Fork Sugar Creek

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North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

4		6
10	11	12

4 EMDEN NE
6 ARMINGTON NE
10 EMDEN SE
11 ARMINGTON SW
12 ARMINGTON SE

INDEX TO ADJOINING 3.75 MAPS

ARMINGTON NW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 5 OF 60

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

LOGAN COUNTY, ILLINOIS
ARMINGTON NE QUADRANGLE
SHEET NUMBER 6 OF 60

89°18′45″ — 89°15′00″ — 40°22′30″ — 40°18′45″

304000m E — 305 — 306 — 307 — 308 — 309

4471 — 4470 — 4469 — 4468 — 4467 — 4466 — 4465000mN

TAZEWELL COUNTY — MCLEAN COUNTY

T. 22 N.

34 — 35 — 36

R. 2 W. | R. 1 W.

Sugar Creek — Middle Fork — Sugar Creek — Sugar Creek

148C2 — 3107A — 736D2 — 86C2 — 749B — 45A — 43A — 684B — 86C2 — 171C2 — 86B — 43A — 705B — 68A — 618F — 279D2 — 279B — 257A — 684C2 — 171B — 233B — 622C2 — 27D2 — 8074A — 8107A — 663A — 733C3 — 733C2 — 736D2 — 3074A — 148B — 152A — 199A — 199B — 17A — 279C2 — 134C2 — 243A

SCALE 1:12000

0.5 — 0 — 0.5 MILES

500 — 0 — 500 — 1000 — 1500 — 2000 — 2500 — 3000 — 3500 FEET

0.5 — 0 — 0.5 KILOMETERS

NORTH

QUARTER QUADRANGLE LOCATION

			5 ARMINGTON NW
5			11 ARMINGTON SW
11	12	13	12 ARMINGTON SE
			13 MCLEAN SW

INDEX TO ADJOINING 3.75 MAPS

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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

ARMINGTON NE, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 6 OF 60

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

LOGAN COUNTY, ILLINOIS
DELAVAN SOUTH SW QUADRANGLE
SHEET NUMBER 7 OF 60

89°37′30″ — 89°33′45″ — 40°18′45″ — 40°15′00″

277000m E — 278 — 279 — 280 — 281 — 282

R. 5 W. | R. 4 W.

T. 21 N. | T. 22 N.

4465 — 4464 — 4463 — 4462 — 4461 — 4460 — 4459000m N



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NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

	1	2
		8
	15	16

1 DELAVAN SOUTH NW
2 DELAVAN SOUTH NE
8 DELAVAN SOUTH SE
15 NEW HOLLAND NW
16 NEW HOLLAND NE

INDEX TO ADJOINING 3.75 MAPS

DELAVAN SOUTH SW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 7 OF 60

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UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

LOGAN COUNTY, ILLINOIS
DELAVAN SOUTH SE QUADRANGLE
SHEET NUMBER 8 OF 60

89° 33′ 45″ — 89° 30′ 00″ — 40° 18′ 45″ — 40° 15′ 00″

R. 4 W.

T. 21 N. | T. 22 N.

283000m E — 284 — 285 — 286 — 287 — 282000m E

4465 — 4464 — 4463 — 4462 — 4461 — 4460 — 4459000m N

PRAIRIE CREEK DITCH — Prairie Creek — Prairie Creek

136

33 — 34 — 35 — 36 — 4 — 3 — 2 — 1 — 9 — 10 — 11 — 12 — 16 — 15 — 14 — 13 — 21 — 22 — 23 — 24

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NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

1	2	3	1 DELAVAN SOUTH NW 2 DELAVAN SOUTH NE 3 EMDEN NW
7		9	7 DELAVAN SOUTH SW 9 EMDEN SW
15	16	17	15 NEW HOLLAND NW 16 NEW HOLLAND NE 17 LINCOLN WEST NW

INDEX TO ADJOINING 3.75 MAPS

DELAVAN SOUTH SE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 8 OF 60

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UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

LOGAN COUNTY, ILLINOIS
EMDEN SW QUADRANGLE
SHEET NUMBER 9 OF 60

89°30′00″ — 89°26′15″ — 40°18′45″ — 40°15′00″

R. 4 W. | R. 3 W.

T. 21 N. | T. 22 N.

288000mE — 289 — 290 — 291 — 292

4465 — 4464 — 4463 — 4462 — 4461 — 4460 — 4459000mN

Emden — Hartsburg — Prairie Creek

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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

2	3	4
8		10
16	17	18

2 DELAVAN SOUTH NE
3 EMDEN NW
4 EMDEN NE
8 DELAVAN SOUTH SE
10 EMDEN SE
16 NEW HOLLAND NE
17 LINCOLN WEST NW
18 LINCOLN WEST NE

INDEX TO ADJOINING 3.75 MAPS

EMDEN SW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 9 OF 60

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

LOGAN COUNTY, ILLINOIS
EMDEN SE QUADRANGLE
SHEET NUMBER 10 OF 60

89°26′15″ — 89°22′30″ — R. 3 W. | R. 2 W. — T. 22 N. | T. 21 N.

293 000m E — 294 — 295 — 296 — 297

4465 — 4464 — 4463 — 4462 — 4461 — 4460 — 4459 000m N

40°18′45″ — 40°15′00″

Hartsburg

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NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

3	4	5
9		11
17	18	19

3 EMDEN NW
4 EMDEN NE
5 ARMINGTON NW
9 EMDEN SW
11 ARMINGTON SW
17 LINCOLN WEST NW
18 LINCOLN WEST NE
19 LINCOLN EAST NW

INDEX TO ADJOINING 3.75 MAPS

EMDEN SE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 10 OF 60

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

LOGAN COUNTY, ILLINOIS
ARMINGTON SW QUADRANGLE
SHEET NUMBER 11 OF 60

89°22′30″ — 89°18′45″ — 40°18′45″ — 40°15′00″

R. 2 W.

T. 21 N. | T. 22 N.



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NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

4	5	6	4 EMDEN NE 5 ARMINGTON NW 6 ARMINGTON NE 10 EMDEN SE 12 ARMINGTON SE 18 LINCOLN WEST NE 19 LINCOLN EAST NW 20 LINCOLN EAST NE
10		12	
18	19	20	

INDEX TO ADJOINING 3.75 MAPS

ARMINGTON SW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 11 OF 60

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UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

LOGAN COUNTY, ILLINOIS
ARMINGTON SE QUADRANGLE
SHEET NUMBER 12 OF 60

89°18′45″ — 89°15′00″ — 40°18′45″ — 40°15′00″

R. 2 W. | R. 1 W.

T. 22 N. | T. 21 N.

304000m E — 305 — 306 — 307 — 308

4464 — 4463 — 4462 — 4461 — 4460 — 4459 — 4458000mN

MC LEAN COUNTY

Creek — Mountjoy

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NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

5	6	
11		13
19	20	21

5 ARMINGTON NW
6 ARMINGTON NE
11 ARMINGTON SW
13 MCLEAN SW
19 LINCOLN EAST NW
20 LINCOLN EAST NE
21 WAYNESVILLE WEST NW

INDEX TO ADJOINING 3.75 MAPS

ARMINGTON SE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 12 OF 60

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

LOGAN COUNTY, ILLINOIS
MCLEAN SW QUADRANGLE
SHEET NUMBER 13 OF 60

89°15′00″ — 89°11′15″ — 40°18′45″ — 40°15′00″

309 000m E — 310 — 311 — 312 — 313 — 314

4464 — 4463 — 4462 — 4461 — 4460 — 4459 — 4458 000m N

MC LEAN COUNTY

ATLANTA

Clear Creek

M-W

W

17 — 18 — 16 — 15 — 20 — 21 — 22 — 19 — 30 — 29 — 28 — 27

T. 21 N.

R. 1 W.

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NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

			6 ARMINGTON NE
6			
12		14	12 ARMINGTON SE 14 MCLEAN SE 20 LINCOLN EAST NE 21 WAYNESVILLE WEST NW 22 WAYNESVILLE WEST NE
20	21	22	

INDEX TO ADJOINING 3.75 MAPS

MCLEAN SW, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 13 OF 60

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UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

LOGAN COUNTY, ILLINOIS
MCLEAN SE QUADRANGLE
SHEET NUMBER 14 OF 60

89°11'15" 89°07'30"

315 000mE 316 317 318 319

40°18'45" 40°18'45"

4464 4463 4462 4461 4460 4459 4458 000mN

MC LEAN COUNTY

DE WITT COUNTY

T. 21 N.

R. 1 W. | R. 1 E.

THIRD PRINCIPAL MERIDIAN

Clear Creek

13 14 15 22 23 24 25 26 27

40°15'00" 40°15'00"

314 000mE 315 316 317 318 319

89°11'15" 89°07'30"

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NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

13		13 MCLEAN SW
		21 WAYNESVILLE WEST NW
21	22	22 WAYNESVILLE WEST NE

INDEX TO ADJOINING 3.75 MAPS

MCLEAN SE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 14 OF 60

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UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

LOGAN COUNTY, ILLINOIS
NEW HOLLAND NW QUADRANGLE
SHEET NUMBER 15 OF 60

89°37′30″ — 89°33′45″ — 40°15′00″ — 40°11′15″

277 000m E — 278 — 279 — 280 — 281 — 282

4458 — 4457 — 4456 — 4455 — 4454 — 4453 — 4452 000m N

R. 5 W. | R. 4 W.

T. 21 N. | T. 20 N.

Harness — Prairie Creek — Creek — DITCH — MASON COUNTY — Prairie — Creek — New Holland

19 — 20 — 21 — 30 — 29 — 28 — 31 — 32 — 33 — 6 — 5 — 7 — 8 — 18 — 17

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NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

	7	8
		16
	23	24

7 DELAVAN SOUTH SW
8 DELAVAN SOUTH SE
16 NEW HOLLAND NE
23 NEW HOLLAND SW
24 NEW HOLLAND SE

INDEX TO ADJOINING 3.75 MAPS

NEW HOLLAND NW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 15 OF 60

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UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

LOGAN COUNTY, ILLINOIS
NEW HOLLAND NE QUADRANGLE
SHEET NUMBER 16 OF 60

89°33′45″ — 89°30′00″ — 40°15′00″ — 40°11′15″

R. 4 W.

T. 21 N. | T. 20 N.



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NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

7	8	9
15		17
23	24	25

7 DELAVAN SOUTH SW
8 DELAVAN SOUTH SE
9 EMDEN SW
15 NEW HOLLAND NW
17 LINCOLN WEST NW
23 NEW HOLLAND SW
24 NEW HOLLAND SE
25 LINCOLN WEST SW

INDEX TO ADJOINING 3.75 MAPS

NEW HOLLAND NE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 16 OF 60

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UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

LOGAN COUNTY, ILLINOIS
LINCOLN WEST NW QUADRANGLE
SHEET NUMBER 17 OF 60

89°30′00″ — 89°26′15″ — 40°15′00″ — 40°11′15″

R. 4 W. | R. 3 W.

T. 21 N. | T. 20 N.

Hartsburg

CREEK

SUGAR CREEK

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NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

8	9	10
16		18
24	25	26

8 DELAVAN SOUTH SE
9 EMDEN SW
10 EMDEN SE
16 NEW HOLLAND NE
18 LINCOLN WEST NE
24 NEW HOLLAND SE
25 LINCOLN WEST SW
26 LINCOLN WEST SE

INDEX TO ADJOINING 3.75 MAPS

LINCOLN WEST NW, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 17 OF 60

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UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

LOGAN COUNTY, ILLINOIS
LINCOLN WEST NE QUADRANGLE
SHEET NUMBER 18 OF 60

89° 26′ 15″ — 89° 22′ 30″ — 40° 15′ 00″ — 40° 11′ 15″

R. 3 W.

T. 21 N. | T. 20 N.

Hartsburg

Bell

SUGAR CREEK



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North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

9	10	11
17		19
25	26	27

9 EMDEN SW
10 EMDEN SE
11 ARMINGTON SW
17 LINCOLN WEST NW
19 LINCOLN EAST NW
25 LINCOLN WEST SW
26 LINCOLN WEST SE
27 LINCOLN EAST SW

INDEX TO ADJOINING 3.75 MAPS

LINCOLN WEST NE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 18 OF 60

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UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

LOGAN COUNTY, ILLINOIS
LINCOLN EAST NW QUADRANGLE
SHEET NUMBER 19 OF 60

89°22′30″ — 89°18′45″ — 40°15′00″ — 40°11′15″

298 000mE — 299 — 300 — 301 — 302 — 303

4457 — 4456 — 4455 — 4454 — 4453 — 4452 — 4451 000mN

R. 2 W.

T. 21 N. | T. 20 N.

R. 3 W. | R. 2 W.

SUGAR CREEK

KICKAPOO CREEK

Evans

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1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

10	11	12
18		20
26	27	28

10 EMDEN SE
11 ARMINGTON SW
12 ARMINGTON SE
18 LINCOLN WEST NE
20 LINCOLN EAST NE
26 LINCOLN WEST SE
27 LINCOLN EAST SW
28 LINCOLN EAST SE

INDEX TO ADJOINING 3.75 MAPS

LINCOLN EAST NW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 19 OF 60

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UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

LOGAN COUNTY, ILLINOIS
LINCOLN EAST NE QUADRANGLE
SHEET NUMBER 20 OF 60



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Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

11	12	13	11 ARMINGTON SW 12 ARMINGTON SE 13 MCLEAN SW
19		21	19 LINCOLN EAST NW 21 WAYNESVILLE WEST NW
27	28	29	27 LINCOLN EAST SW 28 LINCOLN EAST SE 29 WAYNESVILLE WEST SW

INDEX TO ADJOINING 3.75 MAPS

LINCOLN EAST NE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 20 OF 60

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UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

LOGAN COUNTY, ILLINOIS
WAYNESVILLE WEST NW QUADRANGLE
SHEET NUMBER 21 OF 60

89°15′00″ — 89°11′15″ — 40°15′00″ — 40°11′15″

309 000mE 310 311 312 313 314

R. 1 W.

T. 20 N. | T. 21 N.

4457 4456 4455 4454 4453 4452 4451 000mN

KICKAPOO CREEK

Deer Creek

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1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

12	13	14
20		22
28	29	30

12 ARMINGTON SE
13 MCLEAN SW
14 MCLEAN SE
20 LINCOLN EAST NE
22 WAYNESVILLE WEST NE
28 LINCOLN EAST SE
29 WAYNESVILLE WEST SW
30 WAYNESVILLE WEST SE

INDEX TO ADJOINING 3.75 MAPS

WAYNESVILLE WEST NW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 21 OF 60

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UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

LOGAN COUNTY, ILLINOIS
WAYNESVILLE WEST NE QUADRANGLE
SHEET NUMBER 22 OF 60

89°11'15" 89°07'30"
40°15'00"
40°11'15"
R. 1 W. | R. 1 E.
T. 20 N. | T. 21 N.
THIRD PRINCIPAL MERIDIAN
DE WITT COUNTY
CREEK
Creek
Deer Creek
Clear Creek
KICKAPOO
4457
4456
4455
4454
4453
4452
4451 000mN
314 000mE
315
316
317
318
319
25
26
27
34
35
36
1
2
3
10
11
12
13
14
15

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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

13	14	
21		
29	30	

13 MCLEAN SW
14 MCLEAN SE
21 WAYNESVILLE WEST NW
29 WAYNESVILLE WEST SW
30 WAYNESVILLE WEST SE
INDEX TO ADJOINING 3.75 MAPS

WAYNESVILLE WEST NE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 22 OF 60

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

LOGAN COUNTY, ILLINOIS
NEW HOLLAND SW QUADRANGLE
SHEET NUMBER 23 OF 60

89°37′30″ — 89°33′45″ — 40°11′15″ — 40°07′30″

277000m E — 278 — 279 — 280 — 281

R. 5 W. | R. 4 W.

T. 19 N. | T. 20 N.

4451 — 4450 — 4449 — 4448 — 4447 — 4446 — 4445000m N

New Holland

MASON COUNTY

SUGAR CREEK

SALT CREEK

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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

	15	16	15 NEW HOLLAND NW 16 NEW HOLLAND NE
		24	24 NEW HOLLAND SE
	31	32	31 MIDDLETON NW 32 MIDDLETON NE

INDEX TO ADJOINING 3.75 MAPS

NEW HOLLAND SW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 23 OF 60

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

LOGAN COUNTY, ILLINOIS
NEW HOLLAND SE QUADRANGLE
SHEET NUMBER 24 OF 60

89°33′45″ — 89°30′00″ — 40°11′15″ — 40°07′30″

R. 4 W.

T. 20 N. | T. 19 N.

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North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

15	16	17
23		25
31	32	33

15 NEW HOLLAND NW
16 NEW HOLLAND NE
17 LINCOLN WEST NW
23 NEW HOLLAND SW
25 LINCOLN WEST SW
31 MIDDLETON NW
32 MIDDLETON NE
33 BROADWELL NW

INDEX TO ADJOINING 3.75 MAPS

NEW HOLLAND SE, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 24 OF 60

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

LOGAN COUNTY, ILLINOIS
LINCOLN WEST SW QUADRANGLE
SHEET NUMBER 25 OF 60

89° 30′ 00″ — 89° 26′ 15″ — 40° 11′ 15″ — 40° 07′ 30″

R. 4 W. | R. 3 W.

T. 20 N. | T. 19 N.

Burton View

CREEK — KICKAPOO — SALT — CREEK

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

NORTH

QUARTER QUADRANGLE LOCATION

16	17	18
24		26
32	33	34

16 NEW HOLLAND NE
17 LINCOLN WEST NW
18 LINCOLN WEST NE
24 NEW HOLLAND SE
26 LINCOLN WEST SE
32 MIDDLETON NE
33 BROADWELL NW
34 BROADWELL NE

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LINCOLN WEST SW, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 25 OF 60

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UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

LOGAN COUNTY, ILLINOIS
LINCOLN WEST SE QUADRANGLE
SHEET NUMBER 26 OF 60

89°26'15" 89°22'30"

R. 3 W.

40°11'15" 40°07'30"

T. 20 N. | T. 19 N.

LINCOLN (county seat)

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NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

17	18	19	17 LINCOLN WEST NW 18 LINCOLN WEST NE 19 LINCOLN EAST NW
25		27	25 LINCOLN WEST SW 27 LINCOLN EAST SW
33	34	35	33 BROADWELL NW 34 BROADWELL NE 35 MOUNT PULASKI NW

INDEX TO ADJOINING 3.75 MAPS

LINCOLN WEST SE, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 26 OF 60

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UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

LOGAN COUNTY, ILLINOIS
LINCOLN EAST SW QUADRANGLE
SHEET NUMBER 27 OF 60

89°22′30″ — 89°18′45″ — 40°11′15″ — 40°07′30″

298 000m E — 299 — 300 — 301 — 302 — 303

R. 3 W. | R. 2 W.

T. 20 N. | T. 19 N.

4451 — 4450 — 4449 — 4448 — 4447 — 4446 — 4445 000m N

Kruger Siding

LINCOLN
(county seat)

Lincoln Lakes

KICKAPOO CREEK

Brainards Branch

Salt Springs Branch

Deer Creek

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NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

18	19	20
26		28
34	35	36

18 LINCOLN WEST NE
19 LINCOLN EAST NW
20 LINCOLN EAST NE
26 LINCOLN WEST SE
28 LINCOLN EAST SE
34 BROADWELL NE
35 MOUNT PULASKI NW
36 MOUNT PULASKI NE

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LINCOLN EAST SW, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 27 OF 60

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UNITED STATES
DEPARTMENT OF AGRICULTURE
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LOGAN COUNTY, ILLINOIS
LINCOLN EAST SE QUADRANGLE
SHEET NUMBER 28 OF 60

89°18′45″ — 89°15′00″ — 40°11′15″ — 40°07′30″

303 000m E — 304 — 305 — 306 — 307

R. 2 W. | R. 1 W.

4450 — 4449 — 4448 — 4447 — 4446 — 4444 000m N

T. 20 N. | T. 19 N.



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NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

19	20	21
27		29
35	36	37

19 LINCOLN EAST NW
20 LINCOLN EAST NE
21 WAYNESVILLE WEST NW
27 LINCOLN EAST SW
29 WAYNESVILLE WEST SW
35 MOUNT PULASKI NW
36 MOUNT PULASKI NE
37 CHESTNUT NW

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LINCOLN EAST SE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 28 OF 60

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

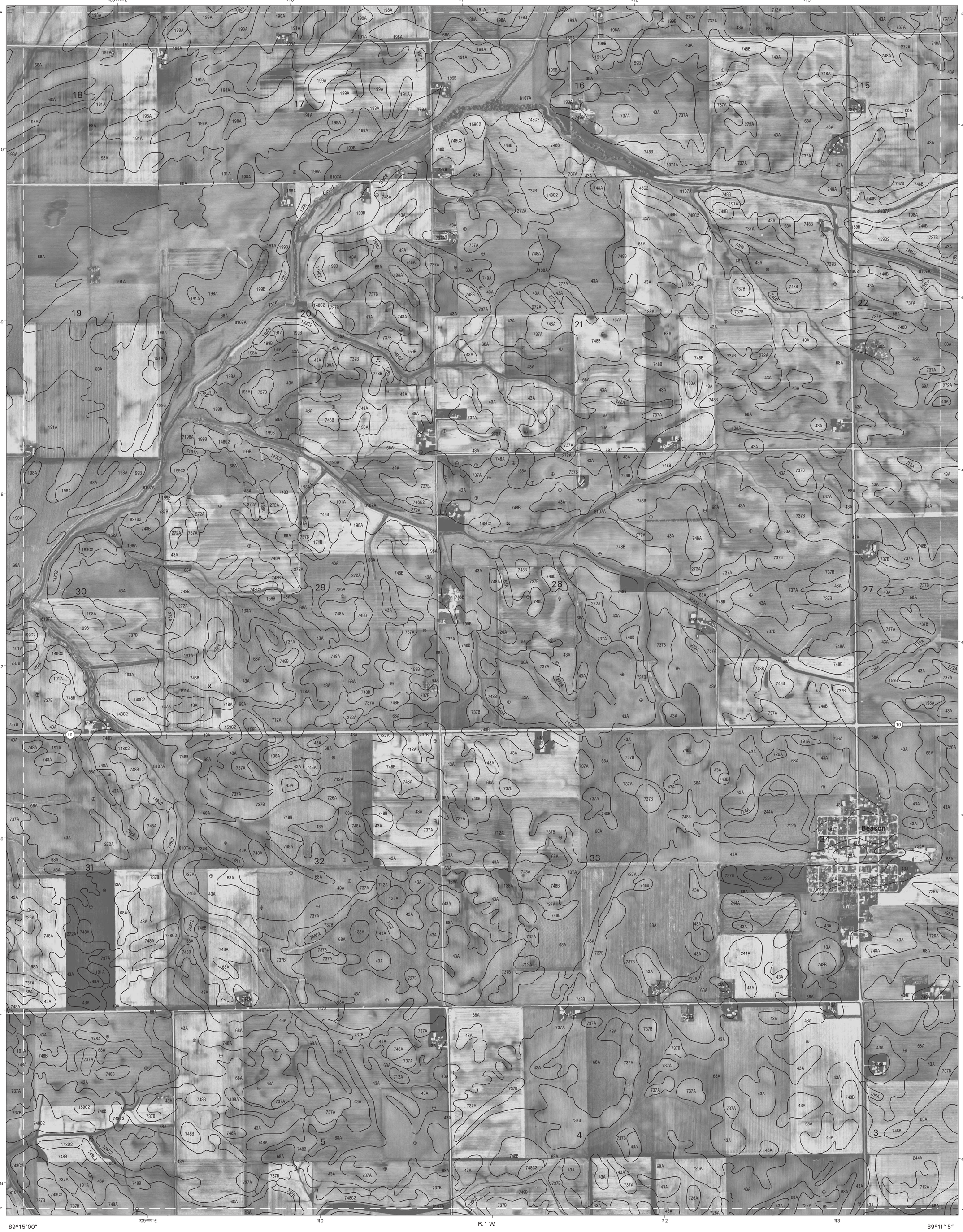
LOGAN COUNTY, ILLINOIS
WAYNESVILLE WEST SW QUADRANGLE
SHEET NUMBER 29 OF 60

89°15′00″ — 89°11′15″ — 40°11′15″ — 40°07′30″

309 000m E — 310 — 311 — R. 1 W. — 312 — 313

4450 — 4449 — 4448 — 4447 — 4446 — 4444 000m N

T. 19 N. | T. 20 N.



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NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

20	21	22
28		30
36	37	38

20 LINCOLN EAST NE
21 WAYNESVILLE WEST NW
22 WAYNESVILLE WEST NE
28 LINCOLN EAST SE
30 WAYNESVILLE WEST SE
36 MOUNT PULASKI NE
37 CHESTNUT NW
38 CHESTNUT NE

INDEX TO ADJOINING 3.75 MAPS

WAYNESVILLE WEST SW, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 29 OF 60

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UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

LOGAN COUNTY, ILLINOIS
WAYNESVILLE WEST SE QUADRANGLE
SHEET NUMBER 30 OF 60

89°11'15" 89°07'30"

R. 1 W. | R. 1 E.

T. 19 N. | T. 20 N.

THIRD PRINCIPAL MERIDIAN

DE WITT COUNTY

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1000-meter ticks: Universal Transverse Mercator, zone 16.
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NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

21	22	21 WAYNESVILLE WEST NW 22 WAYNESVILLE WEST NE
29		29 WAYNESVILLE WEST SW
37	38	37 CHESTNUT NW 38 CHESTNUT NE

INDEX TO ADJOINING 3.75 MAPS

WAYNESVILLE WEST SE, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 30 OF 60

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

LOGAN COUNTY, ILLINOIS
MIDDLETON NW QUADRANGLE
SHEET NUMBER 31 OF 60

89° 37′ 30″ — 89° 33′ 45″ — 40° 07′ 30″ — 40° 03′ 45″

277000m E — 278 — 279 — 280 — 281

4444 — 4443 — 4442 — 4441 — 4440 — 4439 — 4438000m N

R. 5 W. | R. 4 W.

T. 19 N.

MASON COUNTY

MENARD COUNTY

SALT CREEK

Middletown

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NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

	23	24	23 NEW HOLLAND SW 24 NEW HOLLAND SE
		32	32 MIDDLETON NE
	39	40	39 MIDDLETON SW 40 MIDDLETON SE

INDEX TO ADJOINING 3.75 MAPS

MIDDLETON NW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 31 OF 60

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

LOGAN COUNTY, ILLINOIS
MIDDLETON NE QUADRANGLE
SHEET NUMBER 32 OF 60

89° 33′ 45″ — 89° 30′ 00″ — 40° 07′ 30″ — 40° 03′ 45″

R. 4 W.

T. 19 N.

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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

23	24	25	23 NEW HOLLAND SW 24 NEW HOLLAND SE 25 LINCOLN WEST SW
31		33	31 MIDDLETON NW 33 BROADWELL NW
39	40	41	39 MIDDLETON SW 40 MIDDLETON SE 41 BROADWELL SW

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MIDDLETON NE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 32 OF 60

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UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

LOGAN COUNTY, ILLINOIS
BROADWELL NW QUADRANGLE
SHEET NUMBER 33 OF 60

89° 30′ 00″ — 89° 26′ 15″ — 40° 07′ 30″ — 40° 03′ 45″

R. 4 W. | R. 3 W. — T. 19 N.

287 000m E — 288 — 289 — 290 — 291 — 292

4444 — 4443 — 4442 — 4441 — 4440 — 4439 — 4438 000m N

CREEK — SALT — Broadwell

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North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

24	25	26
32		34
40	41	42

24 NEW HOLLAND SE
25 LINCOLN WEST SW
26 LINCOLN WEST SE
32 MIDDLETON NE
34 BROADWELL NE
40 MIDDLETON SE
41 BROADWELL SW
42 BROADWELL SE

INDEX TO ADJOINING 3.75 MAPS

BROADWELL NW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 33 OF 60

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LOGAN COUNTY, ILLINOIS
BROADWELL NE QUADRANGLE
SHEET NUMBER 34 OF 60

89° 26′ 15″ — 89° 22′ 30″ — 40° 07′ 30″ — 40° 03′ 45″

R. 3 W.

T. 19 N.

293 000m E — 294 — 295 — 296 — 297

4444 — 4443 — 4442 — 4441 — 4440 — 4439 — 4438 000m N

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NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

25	26	27
33		35
41	42	43

25 LINCOLN WEST SW
26 LINCOLN WEST SE
27 LINCOLN EAST SW
33 BROADWELL NW
35 MOUNT PULASKI NW
41 BROADWELL SW
42 BROADWELL SE
43 MOUNT PULASKI SW

INDEX TO ADJOINING 3.75 MAPS

BROADWELL NE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 34 OF 60

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UNITED STATES
DEPARTMENT OF AGRICULTURE
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LOGAN COUNTY, ILLINOIS
MOUNT PULASKI NW QUADRANGLE
SHEET NUMBER 35 OF 60

89°22′30″ 89°18′45″ 40°07′30″ 40°03′45″

298 000mE 299 300 301 302 303

4444 4443 4442 4441 4440 4439 4438 000mN

R. 3 W. | R. 2 W.

T. 19 N.

Deer Creek
Salt Springs Branch
SALT CREEK
Chestervale

121

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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

26	27	28
34		36
42	43	44

26 LINCOLN WEST SE
27 LINCOLN EAST SW
28 LINCOLN EAST SE
34 BROADWELL NE
36 MOUNT PULASKI NE
42 BROADWELL SE
43 MOUNT PULASKI SW
44 MOUNT PULASKI SE

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MOUNT PULASKI NW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 35 OF 60

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

LOGAN COUNTY, ILLINOIS
MOUNT PULASKI NE QUADRANGLE
SHEET NUMBER 36 OF 60

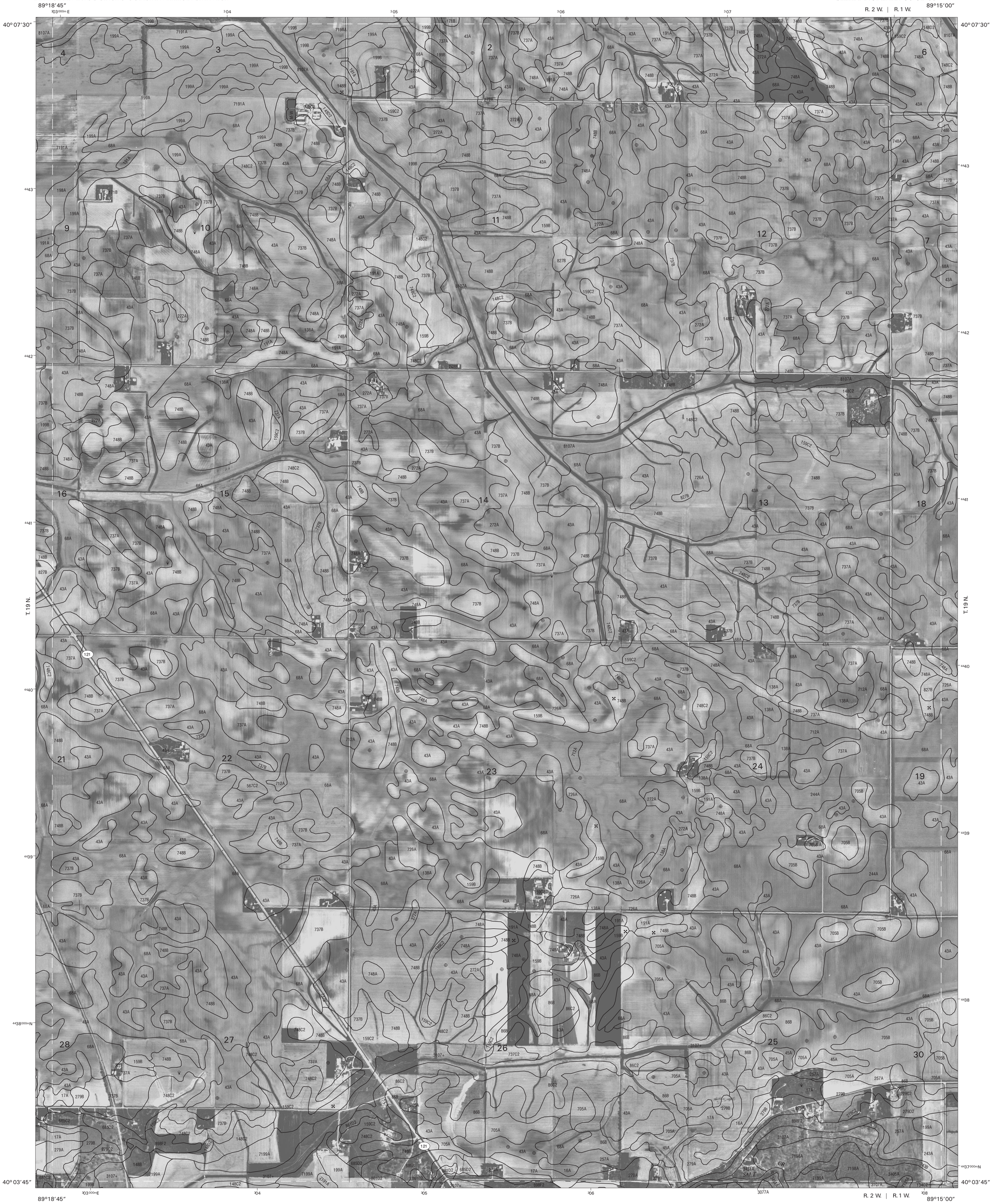
89°18′45″ — 89°15′00″ — 40°07′30″ — 40°03′45″

303 000mE — 304 — 305 — 306 — 307 — 308

R. 2 W. | R. 1 W.

T. 19 N.

4443 — 4442 — 4441 — 4440 — 4439 — 4438 — 4437 000mN



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NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

27	28	29
35		37
43	44	45

27 LINCOLN EAST SW
28 LINCOLN EAST SE
29 WAYNESVILLE WEST SW
35 MOUNT PULASKI NW
37 CHESTNUT NW
43 MOUNT PULASKI SW
44 MOUNT PULASKI SE
45 CHESTNUT SW

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MOUNT PULASKI NE, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 36 OF 60

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
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LOGAN COUNTY, ILLINOIS
CHESTNUT NW QUADRANGLE
SHEET NUMBER 37 OF 60

89°15′00″ — 89°11′15″ — 40°07′30″ — 40°03′45″

309 000m E — 310 — R. 1 W. — 312 — 313

T. 19 N.

4443 — 4442 — 4441 — 4440 — 4439 — 4438 — 4437 000m N

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NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

28	29	30
36		38
44	45	46

28 LINCOLN EAST SE
29 WAYNESVILLE WEST SW
30 WAYNESVILLE WEST SE
36 MOUNT PULASKI NE
38 CHESTNUT NE
44 MOUNT PULASKI SE
45 CHESTNUT SW
46 CHESTNUT SE

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CHESTNUT NW, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 37 OF 60

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

LOGAN COUNTY, ILLINOIS
CHESTNUT NE QUADRANGLE
SHEET NUMBER 38 OF 60

89°11′15″ — 89°07′30″ — 40°07′30″ — 40°03′45″

R. 1 W. | R. 1 E.

T. 19 N.

DE WITT COUNTY

THIRD PRINCIPAL MERIDIAN

SALT CREEK

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NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

29	30		29 WAYNESVILLE WEST SW 30 WAYNESVILLE WEST SE
37			37 CHESTNUT NW
45	46		45 CHESTNUT SW 46 CHESTNUT SE

INDEX TO ADJOINING 3.75 MAPS

CHESTNUT NE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 38 OF 60

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
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LOGAN COUNTY, ILLINOIS
MIDDLETON SW QUADRANGLE
SHEET NUMBER 39 OF 60

89° 37′ 30″ — 89° 33′ 45″

40° 03′ 45″ — 40° 00′ 00″

277 000m E — 278 — 279 — 280 — R. 4 W. — 281

4437 — 4436 — 4435 — 4434 — 4433 — 4432 — 4431 000m N

T. 19 N. | T. 18 N.

COUNTY

MENARD

Pike Creek

32 — 5 — 8 — 17 — 20

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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

	31	32
		40
	47	48

31 MIDDLETON NW
32 MIDDLETON NE
40 MIDDLETON SE
47 WILLIAMSVILLE NW
48 WILLIAMSVILLE NE

INDEX TO ADJOINING 3.75 MAPS

MIDDLETON SW, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 39 OF 60

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

LOGAN COUNTY, ILLINOIS
MIDDLETON SE QUADRANGLE
SHEET NUMBER 40 OF 60

89° 33′ 45″ — 89° 30′ 00″ — 40° 03′ 45″ — 40° 00′ 00″

R. 4 W.

282 000m E — 283 — 284 — 285 — 286

T. 19 N. | T. 18 N.

4437 — 4435 — 4434 — 4433 — 4432 — 4431 000m N



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NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

31	32	33	31 MIDDLETON NW 32 MIDDLETON NE 33 BROADWELL NW
39		41	39 MIDDLETON SW 41 BROADWELL SW
47	48	49	47 WILLIAMSVILLE NW 48 WILLIAMSVILLE NE 49 CORNLAND NW

INDEX TO ADJOINING 3.75 MAPS

MIDDLETON SE, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 40 OF 60

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UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

LOGAN COUNTY, ILLINOIS
BROADWELL SW QUADRANGLE
SHEET NUMBER 41 OF 60

89° 30′ 00″ — 89° 26′ 15″ — 40° 03′ 45″ — 40° 00′ 00″

287 000m E — 289 — 290 — 291 — 292

R. 4 W. | R. 3 W.

T. 19 N. | T. 18 N.

4437 — 4436 — 4435 — 4434 — 4433 — 4432 — 4431 000m N



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North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

32	33	34
40		42
48	49	50

32 MIDDLETON NE
33 BROADWELL NW
34 BROADWELL NE
40 MIDDLETON SE
42 BROADWELL SE
48 WILLIAMSVILLE NE
49 CORNLAND NW
50 CORNLAND NE

INDEX TO ADJOINING 3.75 MAPS

BROADWELL SW, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 41 OF 60

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UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

LOGAN COUNTY, ILLINOIS
BROADWELL SE QUADRANGLE
SHEET NUMBER 42 OF 60



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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

33	34	35
41		43
49	50	51

33 BROADWELL NW
34 BROADWELL NE
35 MOUNT PULASKI NW
41 BROADWELL SW
43 MOUNT PULASKI SW
49 CORNLAND NW
50 CORNLAND NE
51 LAKE FORK NW

INDEX TO ADJOINING 3.75 MAPS

BROADWELL SE, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 42 OF 60

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UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

LOGAN COUNTY, ILLINOIS
MOUNT PULASKI SW QUADRANGLE
SHEET NUMBER 43 OF 60

89°22′30″ | 89°18′45″ | 40°03′45″ | 40°00′00″

R. 3 W. | R. 2 W.

T. 19 N. | T. 18 N.

299 | 300 | 301 | 302

4437 | 4436 | 4435 | 4434 | 4433 | 4432 | 4431 000mN



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NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

34	35	36
42		44
50	51	52

34 BROADWELL NE
35 MOUNT PULASKI NW
36 MOUNT PULASKI NE
42 BROADWELL SE
44 MOUNT PULASKI SE
50 CORNLAND NE
51 LAKE FORK NW
52 LAKE FORK NE

INDEX TO ADJOINING 3.75 MAPS

MOUNT PULASKI SW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 43 OF 60

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

LOGAN COUNTY, ILLINOIS
MOUNT PULASKI SE QUADRANGLE
SHEET NUMBER 44 OF 60

89°18′45″ — 89°15′00″ — 40°03′45″ — 40°00′00″

303 000m E — 304 — 305 — 306 — 307 — 308

4437 — 4436 — 4435 — 4434 — 4433 — 4432 — 4431 000m N

R. 2 W. | R. 1 W.

T.18 N. | T.19 N.

MOUNT PULASKI

Tomlinson Siding

SALT CREEK

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NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

35	36	37
43		45
51	52	53

35 MOUNT PULASKI NW
36 MOUNT PULASKI NE
37 CHESTNUT NW
43 MOUNT PULASKI SW
45 CHESTNUT SW
51 LAKE FORK NW
52 LAKE FORK NE
53 LATHAM NW

INDEX TO ADJOINING 3.75 MAPS

MOUNT PULASKI SE, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 44 OF 60

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

LOGAN COUNTY, ILLINOIS
CHESTNUT SW QUADRANGLE
SHEET NUMBER 45 OF 60

89°15′00″ — 89°11′15″ — 40°03′45″ — 40°00′00″

R. 1 W.

T. 19 N. | T. 18 N.

Chestnut

Pine Lake

CREEK

SALT

54

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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

36	37	38
44		46
52	53	54

36 MOUNT PULASKI NE
37 CHESTNUT NW
38 CHESTNUT NE
44 MOUNT PULASKI SE
46 CHESTNUT SE
52 LAKE FORK NE
53 LATHAM NW
54 LATHAM NE

INDEX TO ADJOINING 3.75 MAPS

CHESTNUT SW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 45 OF 60

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

LOGAN COUNTY, ILLINOIS
CHESTNUT SE QUADRANGLE
SHEET NUMBER 46 OF 60

89°11'15" 89°07'30"



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NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

37	38	37 CHESTNUT NW 38 CHESTNUT NE
45		45 CHESTNUT SW
53	54	53 LATHAM NW 54 LATHAM NE

INDEX TO ADJOINING 3.75 MAPS

CHESTNUT SE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 46 OF 60

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

LOGAN COUNTY, ILLINOIS
WILLIAMSVILLE NW QUADRANGLE
SHEET NUMBER 47 OF 60

89° 37′ 30″ — 89° 33′ 45″ — 40° 00′ 00″ — 39° 56′ 15″

276000m E — 277 — 278 — 279 — 280 — 281

4430 — 4429 — 4428 — 4427 — 4426 — 4425 — 4424000m N

R. 4 W. — T. 18 N.

MENARD COUNTY

SANGAMON COUNTY

20

29

43A 244A 68A 86B 705B 45A 705A 86C2 965D2 3074A 965C2

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NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

INDEX TO ADJOINING 3.75 MAPS

	39	40	39 MIDDLETON SW 40 MIDDLETON SE
		48	48 WILLIAMSVILLE NE

WILLIAMSVILLE NW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 47 OF 60

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

LOGAN COUNTY, ILLINOIS
WILLIAMSVILLE NE QUADRANGLE
SHEET NUMBER 48 OF 60

89° 33′ 45″ — 89° 30′ 00″ — 40° 00′ 00″ — 39° 56′ 15″

R. 4 W.

T. 18 N.

SANGAMON COUNTY

Walnut Hill

W

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NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

39	40	41	39 MIDDLETON SW 40 MIDDLETON SE 41 BROADWELL SW
47		49	47 WILLIAMSVILLE NW 49 CORNLAND NW
		55	55 CORNLAND SW

INDEX TO ADJOINING 3.75 MAPS

WILLIAMSVILLE NE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 48 OF 60

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LOGAN COUNTY, ILLINOIS
CORNLAND NW QUADRANGLE
SHEET NUMBER 49 OF 60



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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

40	41	42
48		50
	55	56

40 MIDDLETON SE
41 BROADWELL SW
42 BROADWELL SE
48 WILLIAMSVILLE NE
50 CORNLAND NE
55 CORNLAND SW
56 CORNLAND SE

INDEX TO ADJOINING 3.75 MAPS

CORNLAND NW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 49 OF 60

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
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LOGAN COUNTY, ILLINOIS
CORNLAND NE QUADRANGLE
SHEET NUMBER 50 OF 60

89° 26′ 15″ — 89° 22′ 30″ — 40° 00′ 00″ — 39° 56′ 15″

R. 3 W.

292 000m E — 293 — 294 — 295 — 296 — 297

4430 — 4429 — 4428 — 4427 — 4425 — 4424 000m N

T. 17 N. | T. 18 N.

21 22 23 24 25 26 27 28 33 34 35 36 4 3 2 1 9 10 11 12

LAKE FORK — LAKE FORK — LAKE FORK

Cornland

54

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NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

41	42	43	41 BROADWELL SW 42 BROADWELL SE 43 MOUNT PULASKI SW
49		51	49 CORNLAND NW 51 LAKE FORK NW
55	56	57	55 CORNLAND SW 56 CORNLAND SE 57 LAKE FORK SW

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CORNLAND NE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 50 OF 60

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UNITED STATES
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LOGAN COUNTY, ILLINOIS
LAKE FORK NW QUADRANGLE
SHEET NUMBER 51 OF 60



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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

42	43	44
50		52
56	57	58

42 BROADWELL SE
43 MOUNT PULASKI SW
44 MOUNT PULASKI SE
50 CORNLAND NE
52 LAKE FORK NE
56 CORNLAND SE
57 LAKE FORK SW
58 LAKE FORK SE

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LAKE FORK NW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 51 OF 60

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
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LOGAN COUNTY, ILLINOIS
LAKE FORK NE QUADRANGLE
SHEET NUMBER 52 OF 60

89°18′45″ — 89°15′00″ — 40°00′00″ — 39°56′15″

303000mE 304 305 306 307 308

4430 4429 4428 4427 4426 4425 4424000mN 4424

R. 2 W. | R. 1 W.

T.17 N. | T.18 N.

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NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

43	44	45
51		53
57	58	59

43 MOUNT PULASKI SW
44 MOUNT PULASKI SE
45 CHESTNUT SW
51 LAKE FORK NW
53 LATHAM NW
57 LAKE FORK SW
58 LAKE FORK SE
59 LATHAM SW

INDEX TO ADJOINING 3.75 MAPS

LAKE FORK NE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 52 OF 60

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
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LOGAN COUNTY, ILLINOIS
LATHAM NW QUADRANGLE
SHEET NUMBER 53 OF 60

89°15′00″ — 89°11′15″ — 40°00′00″ — 39°56′15″

R. 1 W.

T. 18 N. | T. 17 N.

Narita

Lake Fork

North Fork

LAKE FORK

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NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

44	45	46
52		54
58	59	60

44 MOUNT PULASKI SE
45 CHESTNUT SW
46 CHESTNUT SE
52 LAKE FORK NE
54 LATHAM NE
58 LAKE FORK SE
59 LATHAM SW
60 LATHAM SE

INDEX TO ADJOINING 3.75 MAPS

LATHAM NW, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 53 OF 60

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
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LOGAN COUNTY, ILLINOIS
LATHAM NE QUADRANGLE
SHEET NUMBER 54 OF 60

89°11'15" 89°07'30"

R. 1 W. | R. 1 E.

T. 17 N. | T. 18 N.

Laenna Lake

Latham

North Fork Lake

South Fork

THIRD PRINCIPAL MERIDIAN

MACON COUNTY

121

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Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1998 - 1999 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

45	46	45 CHESTNUT SW 46 CHESTNUT SE
53		53 LATHAM NW
59	60	59 LATHAM SW 60 LATHAM SE

INDEX TO ADJOINING 3.75 MAPS

LATHAM NE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 54 OF 60

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

LOGAN COUNTY, ILLINOIS
CORNLAND SW QUADRANGLE
SHEET NUMBER 55 OF 60

89° 30′ 00″ — 89° 26′ 15″ — 39° 56′ 15″ — 39° 52′ 30″

R. 4 W. | R. 3 W.

T. 17 N.

SANGAMON COUNTY

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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

48	49	50	48 WILLIAMSVILLE NE 49 CORNLAND NW 50 CORNLAND NE
		56	56 CORNLAND SE

INDEX TO ADJOINING 3.75 MAPS

CORNLAND SW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 55 OF 60

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

LOGAN COUNTY, ILLINOIS
CORNLAND SE QUADRANGLE
SHEET NUMBER 56 OF 60

89° 26′ 15″ — 89° 22′ 30″ — 39° 56′ 15″ — 39° 52′ 30″

R. 3 W.

T. 17 N.

SANGAMON COUNTY

Cornland

92 000m E — 93 — 94 — 95 — 96 — 97

4423 — 4422 — 4421 — 4420 — 4419 — 4418 — 4417 000m N

9 10 11 12 13 14

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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

49	50	51
55		57

49 CORNLAND NW
50 CORNLAND NE
51 LAKE FORK NW
55 CORNLAND SW
57 LAKE FORK SW

INDEX TO ADJOINING 3.75 MAPS

CORNLAND SE, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 56 OF 60

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UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

LOGAN COUNTY, ILLINOIS
LAKE FORK SW QUADRANGLE
SHEET NUMBER 57 OF 60

89°22′30″ 89°18′45″

R. 3 W. | R. 2 W.

297 000m E 298 299 300 301 302

39°56′15″ 39°52′30″

T. 17 N.

4423 4422 4421 4420 4419 4418 4417 000m N

SANGAMON COUNTY

LAKE FORK

Hunter Slough

12 7 8 9 13 18 17 16

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Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1998 - 1999 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

50	51	52	50 CORNLAND NE 51 LAKE FORK NW 52 LAKE FORK NE
56		58	56 CORNLAND SE 58 LAKE FORK SE

INDEX TO ADJOINING 3.75 MAPS

LAKE FORK SW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 57 OF 60

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

LOGAN COUNTY, ILLINOIS
LAKE FORK SE QUADRANGLE
SHEET NUMBER 58 OF 60

89°18′45″ — 89°15′00″ — 39°56′15″ — 39°52′30″

R. 2 W. | R. 1 W.

303 000m E — 304 — 305 — 306 — 307

T. 17 N.

4423 — 4422 — 4421 — 4420 — 4419 — 4418 — 4417 000mN

FORK LAKE

SANGAMON COUNTY

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NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

51	52	53	51 LAKE FORK NW 52 LAKE FORK NE 53 LATHAM NW 57 LAKE FORK SW 59 LATHAM SW
57		59	

INDEX TO ADJOINING 3.75 MAPS

LAKE FORK SE, ILLINOIS

3.75 MINUTE SERIES
SHEET NUMBER 58 OF 60

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UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

LOGAN COUNTY, ILLINOIS
LATHAM SW QUADRANGLE
SHEET NUMBER 59 OF 60

89°15′00″ — 89°11′15″ — 39°56′15″ — 39°52′30″

R. 1 W.

T. 17 N.

SANGAMON COUNTY

MACON COUNTY

North Fork Lake
South Fork Lake

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NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES: 0.5 0 0.5

FEET: 500 0 500 1000 1500 2000 2500 3000 3500

KILOMETERS: 0.5 0 0.5

52	53	54	52 LAKE FORK NE 53 LATHAM NW 54 LATHAM NE
58		60	58 LAKE FORK SE 60 LATHAM SE

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LATHAM SW, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 59 OF 60

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UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

LOGAN COUNTY, ILLINOIS
LATHAM SE QUADRANGLE
SHEET NUMBER 60 OF 60

89°11'15"
89°07'30"
39°56'15"
39°52'30"
313 000mE
314
315
316
317
318
R. 1 W. | R. 1 E.
T. 17 N.
4422
4421
4420
4419
4418
4417
4416 000mN
MACON COUNTY
THIRD PRINCIPAL MERIDIAN
South Fork
Fork Lake
10
11
12
13
14
15
MACON COUNTY

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NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

53	54	53 LATHAM NW 54 LATHAM NE
59		59 LATHAM SW

INDEX TO ADJOINING 3.75 MAPS

LATHAM SE, ILLINOIS
3.75 MINUTE SERIES
SHEET NUMBER 60 OF 60

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